

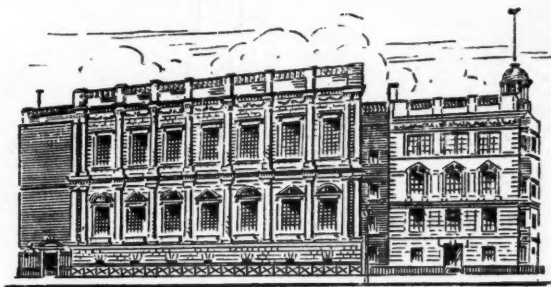
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# JOURNAL



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|---|---|
| <p>1874. Captain H. W. L. Hime, R.A.<br/> 1875. Commander G. H. U. Noel, R.N.<br/> 1876. Lieutenant J. F. G. Ross of<br/> Bladensburg, Coldstream Guards.<br/> 1877. Captain Philip H. Colomb, R.N.<br/> 1878. Major T. Fraser, R.E.<br/> Captain E. Clayton, R.A.<br/> 1879. Captain The Hon. E. R. Fre-<br/> mantle, C.B., C.M.G., A.D.C.,<br/> R.N.<br/> 1880. Captain J. K. Trotter, R.A.<br/> 1881. Captain L. Brine, R.N.<br/> 1882. No Medal awarded.<br/> 1883. Captain C. Johnstone, R.N.<br/> 1884. Captain G. T. Browne, North-<br/> amptonshire Regiment.<br/> 1885. Lieutenant F. C. D. Sturdee,<br/> R.N.<br/> 1886. Captain C. E. Callwell, R.A.<br/> 1887. No Medal awarded.<br/> 1888. Captain J. F. Daniell, R.M.L.I.<br/> 1889. Captain H. F. Cleveland, R.N.<br/> 1890. Captain G. E. Benson, R.A.<br/> 1891. Captain R. W. Craigie, R.N.<br/> 1892. Lieut.-Colonel J. Farquharson,<br/> C.B., R.E.<br/> 1893. Commander F. C. D. Sturdee,<br/> R.N.<br/> 1894. Major F. B. Elmslie, R.A.<br/> 1895. Commander J. Honner, R.N.<br/> 1896. Captain G. F. Ellison, Queen's<br/> Royal West Surrey Regiment.<br/> 1897. Commander G. A. Ballard, R.N.<br/> 1898. Captain W. B. Brown, R.E.<br/> 1899. Commander G. A. Ballard, R.N.<br/> 1900. No Medal awarded.</p> | <p>1901. Lieutenant L. H. Hordern, R.N.<br/> 1902. Major A. H. Terry, A.S.C.<br/> 1903. Lieutenant A. C. Dewar, R.N.<br/> 1904. Lieut.-Colonel C. E. D. Telfer-<br/> Smollett, 3rd Bn. South Staf-<br/> fordshire Regiment.<br/> 1905. Major W. C. Bridge, South Staf-<br/> fordshire Regiment, p.s.c.<br/> 1906. Lieutenant B. E. Domville, R.N.<br/> 1907. Lieut.-Colonel A. F. Mockler-<br/> Ferryman, Reserve of Officers.<br/> 1908. Major A. B. N. Churchill, R.G.A.<br/> 1909. No Medal awarded.<br/> 1910. Captain P. W. Game, R.H.A.<br/> 1911. Captain H. T. Russell, late<br/> R.G.A.<br/> 1912. Commander K. G. B. Dewar,<br/> R.N.<br/> 1913. Major A. Lawson, 2nd Drags.<br/> 1914-15-16-17. No Medals awarded.<br/> 1918. Lieutenant W. S. R. King-Hall,<br/> R.N.<br/> 1919. Colonel J. F. C. Fuller, D.S.O.,<br/> Oxford &amp; Bucks L.I.<br/> 1920. No Medal awarded.<br/> 1921. Flight-Lieutenant C. J. Mackay,<br/> M.C., D.F.C., R.A.F.<br/> 1922. Major R. Chenevix-Trench,<br/> O.B.E., M.C., Royal Corps of<br/> Signals.<br/> 1923. Captain A. H. Norman, C.M.G.,<br/> R.N.<br/> 1924. Major L. I. Cowper, O.B.E.,<br/> King's Own Royal Regiment.<br/> 1925. Lieut.-Colonel J. C. Dundas, D.S.O.,<br/> Royal Tank Corps.<br/> 1926. No Medal awarded.</p> |
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## RECIPIENTS OF THE CHESNEY GOLD MEDAL

(With rank of Officers at the time of the Award).

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|---|---|
| <p>1900. Captain A. T. Mahan, United<br/> States Navy.<br/> 1907. Major-General Sir J. F. Maurice,<br/> K.C.B., p.s.c.<br/> 1909. Hon. J. W. Fortescue, M.V.O.<br/> 1910. Sir J. K. Laughton, Knt., M.A.<br/> 1911. Professor C. W. C. Oman, M.A.,<br/> F.S.A.<br/> 1913. Colonel Sir L. A. Hale.</p> | <p>1914. Sir Julian S. Corbett, LL.M.,<br/> F.S.A.<br/> 1919. Major-General E. D. Swinton,<br/> C.B., D.S.O.<br/> 1921. Major-General Sir C. E. Callwell,<br/> K.C.B.<br/> 1924. Professor G. A. R. Callender,<br/> M.A., F.S.A.<br/> 1925. Captain Sir George Arthur,<br/> Bart., M.V.O.</p> |
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## MEMBERSHIP

### SECRETARY'S NOTES

February, 1928.

#### Royal Visit.

On the 20th January, H.R.H. Prince Arthur of Connaught and the Earl of MacDuff visited the Museum and Institution.

#### Vice-President.

The Council deeply regret to have to record the death, on 29th January, of Field-Marshal The Right Hon. The Earl Haig, K.T., G.C.B., O.M., G.C.V.O., K.C.I.E. He was a Life Member and had served on the Council since 1920, in which year he was Chairman.

#### Council.

The following Members of the Council, having completed three years' service, retire at the Anniversary Meeting:—Admiral-of-the-Fleet Earl Beatty, G.C.B., O.M., G.C.V.O., D.S.O.; Admiral Sir George P. W. Hope, K.C.B., K.C.M.G.; Admiral Sir R. G. O. Tupper, G.B.E., K.C.B., C.V.O.; Captain Sir D. Wilson-Barker, Knt., R.D., R.N.R.; General Sir Noel Birch, G.B.E., K.C.B., K.C.M.G.; General Lord Horne, G.C.B., K.C.M.G.; General Sir G. F. Milne, G.C.M.G., K.C.B., D.S.O.; General Sir E. G. Barrow, G.C.B., G.C.I.E.; Air Vice-Marshal Vyell Vyvyan, K.C.B., D.S.O.

The vacancies on the Council will be filled at that meeting, in accordance with Chap. IV of the Bye-Laws.

#### Staff.

The Council have decided to abolish the office of Assistant Secretary and Accountant and are appointing an Assistant Executive Officer who will assist the Secretary in that part of his duties which relate to his position as Chief Executive Officer.

They have also decided that the work involved in keeping the accounts of the Institution is not such as to justify a separate office for an Accountant and this duty will, under the supervision of the Secretary, be performed by the senior shorthand-typist.

It is with much regret that the Council have had to accept the resignation, on medical grounds, of Chief Attendant W. G. Baker, after over twenty-one years' service in the Institution.

#### Anniversary Meeting.

The Anniversary Meeting will be held on Tuesday, 6th March, 1928, at 3.30 p.m. The Council will present their Annual Report and Accounts for 1927, the election to vacancies on the Council will take place, the result of the Gold Medal Essay Competition will be announced, and revised Bye-Laws will be presented for ratification.

The Chair will be taken by the Chairman of the Council, Admiral Sir H. H. Bruce, K.C.B., M.V.O.



# RECIPIENTS OF THE ROYAL UNITED SERVICE INSTITUTION GOLD MEDAL.

ii.

## Membership.

During the past year 217 officers joined the Institution (compared with 319 in 1926). There were 129 withdrawals (compared with 233 in 1926). Forty-three Life Members and 41 Annual Members died; 36 Members were struck off for being two years in arrears.

The total number of Members on 31st December, 1927, was 5,866. This represents a decrease of total membership on the year of 32 Members, but as this decrease includes the 43 deceased Life Members, the actual financial gain in membership to the Institution is 11.

Details of Members joining are as follows:—

Regular Army (all Arms)	154
Royal Navy	28
Royal Air Force	14
Territorial Army	10
Royal Marines	8
Royal Naval Reserve and Volunteer Reserve	2
Overseas Forces	1

## Officers Joined.

The following Officers joined the Institution during the months of November, December and January:—

### Navy.

Captain C. J. C. Little, C.B., R.N.  
 Lieutenant L. G. Richardson, R.N.  
 Lieutenant K. H. S. Cohen, R.N.  
 Lieutenant D. L. Raymond, R.N.  
 Lieutenant R. H. Balfour, R.N.  
 Lieutenant W. I. Nonweiler, R.M.  
 Navel Cadet R. J. Cooper, R.N.  
 Lieutenant H. A. Tracey, R.M.  
 Lieut.-Commander A. S. Russell, R.N.  
 Midshipman A. H. F. Hunt, R.N.  
 Captain R. Harrison, D.S.O., R.D., R.N.R.  
 Lieutenant P. Du Cane, R.N.  
 Acting Sub-Lieutenant J. H. Gretton, R.N.  
 Lieut.-Commander M. C. Brotherton, R.N.

### Army.

Captain G. E. Attwell, 3rd/1st Punjab Regiment.  
 Major R. B. L. Harvey, O.B.E., Royal Berkshire Regiment.  
 Lieutenant C. A. Mead, Royal Engineers.  
 Lieutenant G. E. B. Honeyman, The Black Watch.  
 Captain G. Rawstorne, M.C., Seaforth Highlanders.  
 Captain A. G. Little, Royal Artillery.  
 Lieutenant G. E. C. Rossall, Manchester Regiment.

Major S. V. Kennedy, M.C., 13th/18th Hussars.  
 Major James Muirhead, M.C., Seaforth Highlanders.  
 Lieutenant J. A. Macdonald, Royal Artillery.  
 Captain A. A. Moller, M.C., Grenadier Guards, Reserve of Officers.  
 Captain P. D. Morrison, Royal Scots Fusiliers.  
 Major H. C. Methuen, D.S.O., M.C., Cameron Highlanders.  
 Lieutenant D. E. M. Fielding, York and Lancaster Regiment.  
 Lieutenant The Hon. L. O. Russell, 5th Bedfordshire and Hertfordshire Regiment (T.A.).  
 Lieutenant A. N. S. Corbett, 20th Light Battery, Royal Artillery.  
 Captain C. Macnab, Highland Light Infantry.  
 Lieutenant G. H. G. L. Verney, 1st Bn. Grenadier Guards.  
 Lieutenant R. R. Dauban, Royal Artillery.  
 Lieutenant-Colonel S. Wright, late 21st London Regiment.  
 Captain A. C. Brooks, Royal Engineers.  
 Lieutenant N. G. Richards, Bucks Yeomanry.  
 Colonel B. B. Colbeck, D.S.O., Royal Artillery.  
 Lieutenant A. G. W. Jolliffe, Royal Berkshire Regiment.  
 Captain R. D. Keane, Royal Engineers.  
 Colonel T. M. Hutchinson, D.S.O., late R.A.S.C.  
 Lieutenant G. A. Palmer, Royal Engineers.  
 Captain A. H. Snelling, I.A.S.C.  
 Lieutenant-Colonel W. C. C. Gell, D.S.O., M.C., T.D., Royal Warwickshire Regiment.  
 Captain K. H. Lockhart, Royal Engineers.  
 Lieutenant W. M. Knatchbull, 2nd Royal West Kent Regiment.  
 Major J. E. E. Galbraith, D.S.O., late Royal Fusiliers.  
 Captain G. D. Watson, Royal Engineers.  
 Captain R. Macleod, D.S.O., M.C., Royal Artillery.  
 Brigadier-General Hon. C. G. Fortescue, C.B., C.M.G., D.S.O. (retired).  
 Captain J. S. Watson, M.C., Argyll and Sutherland Highlanders.  
 Major H. L. Bowen, M.C., late K.O.Y.L.I.  
 Captain J. Spottiswoode, M.C., Royal Engineers.  
 Major Sir Alexander Gordon Cardew, K.C.S.I., Nilgiri Volunteer Rifles.  
 Lieutenant J. L. Spencer, M.C., Hampshire Regiment.  
 Captain E. J. Boughton, Indian Army Service Corps.

#### Royal Air Force.

Flight-Lieutenant S. B. Harris, D.F.C., A.F.C., Royal Air Force.  
 Flight-Lieutenant A. P. Ritchie, A.F.C., Royal Air Force.  
 Flying Officer C. F. Sealy, Royal Air Force.  
 Flight-Lieutenant A. H. Orlebar, A.F.C., Royal Air Force.  
 Flight-Lieutenant J. A. McDonald, Royal Air Force.

#### Gold Medal Essay (Military), 1927.

The following additional Essays were received:—

- (5) "He that will not apply new remedies must accept new evils."
- (6) "The Whale grows legs."
- (7) "Machine Power or Man Power."

### Change of Rank and Address.

The attention of Members is called to the necessity for communicating any changes of rank or address to the Secretary. It is essential that such notification should be made in writing, and only one address can be registered. The first day of the month in which the JOURNAL is issued is the last day on which such change can be notified in order to take effect for the delivery of the JOURNAL of the current quarter.

### JOURNAL.

#### Price of Journal to Non-Members.

The price of the Journal to Non-Members, as from February, 1927 number, is 7s. 6d., or the four quarterly numbers will be sent for an annual subscription of £1 10s.; post free in either case.

#### Trade Discount.

Recognised firms can now be supplied with not less than one dozen copies of the JOURNAL at a time, at a wholesale price of 7s. each copy, the buyer to collect from the Institution.

#### Additional Copies of the Journal.

Additional copies of early numbers of the JOURNAL, if available, can be supplied, post free, to Members at:—

3s. od. for JOURNALS prior to February, 1927.

4s. od. for the JOURNAL of February, 1927, and later.

#### Back Numbers Wanted.

There has been so great a demand for sales copies of the JOURNAL for the past three years that many issues are now out of stock. Members who have not room to store back numbers are specially asked to return any copies of JOURNALS from 1925 to 1927, inclusive, which they can spare and which are in good condition. cost of carriage will be returned on request.

### LIBRARY.

#### Facilities for Borrowing Books.

The special attention of those Members who are now paying the new annual subscription of £1 5s. od., is invited to the fact that they are thereby entitled to the full privileges of the Lending Library without further charge. These include the right to have sent to them not more than four volumes at a time on loan, the Member paying postage both ways.

Old Members who have not wished to conform to the new arrangement and who are still paying the original subscription of £1 1s. od., must pay an additional subscription of 10s. per annum in order to belong to the Lending Library.

All Members are, of course, free to use the Library when they visit the Institution.

## MUSEUM.

### Ship Model Exhibition.

The special Exhibition of pictorial models illustrating the development of warships from the ancient Briton's war-canoe up to H.M.S. "Hood" has proved so popular that it has been retained for the present, but the models are due to go to Canada before the summer.

### Aircraft Model Exhibition.

An Exhibition of models showing twenty-five years' development of the aeroplane is now installed in the crypt together with some interesting coloured prints showing the early days of ballooning.

The aircraft models have been kindly lent by the Department of Overseas Trade, Imperial Airways, Ltd., and the Supermarine Aviation Company, and the coloured prints by Mr. J. E. Hodgson. The Directorate of Civil Aviation at the Air Ministry has been good enough to afford valuable assistance in arranging the exhibits.

The Exhibition cannot be retained beyond the first week in March.

### Additions.

- (3571) Colour of No. 6 Company, 2nd Bn. Scots Fusiliers, previous to 1877.—Lent by the Executors of the late Colonel Frederick Palmer.
- (3572) Colour of "G" Company, 1st Bn. of the Scots Guards.—Lent by the Executors of the late Colonel Frederick Palmer.
- (3573) The Regimental Colour of the 50th Regiment, previous to the Union.—Given by Lieutenant-General Sir Edwin A. H. Alderson, K.C.B.
- (7951-2) Field Marshal's Baton, Medals and Decorations of Field Marshal Sir John Forster Fitzgerald, G.C.B.—Given by W. W. A. Fitzgerald, Esq.
- (7953) The Insignia of a Companion of the Order of the Bath, conferred upon Colonel Charles Fitzgerald, C.B.—Given by W. W. A. Fitzgerald, Esq.
- (7954) Medals of the late Colonel S. Augustine Fitzgerald, Hon. East India Company's Artillery.
- (7955) A small Gold Pin given by Lord Nelson to the late Vice-Admiral Thomas Spratt.—Given by Mrs. A. L. Perry.
- (7956) A series of wooden blocks on which are depicted the public funeral procession of Vice-Admiral Viscount Nelson, from the Admiralty to St. Paul's Cathedral.—Given by Captain A. C. Whitehorne, O.B.E.
- (7957) Cross Belt and Brooch of the 78th Highlanders; Officer's Helmet Badge of the 3rd Punjab Cavalry; Officer's Cap Badge of the 82nd Regiment.—Given by Colonel D. C. Phillott, late I.A. Cavalry.
- (7958) Officer's Glengarry Badge of the 40th Regiment; Officer's Mufti Button of the 38th Regiment.—Given by Colonel D. C. Phillott, late I.A. Cavalry.



## Attendance.

The amount taken for admission to the Museum during the past quarter was:—

£143 15s. od. in November.

£104 12s. 6d. in December.

£193 11s. od. in January.

## Purchase Fund.

This Fund was opened with the object of purchasing suitable exhibits, which from time to time are offered to the Museum, or are put up for sale at various auctions. The Council hope it will receive support from Members of the Institution who are interested in the Museum.

## Regimental War Medals.

We are asked to make known that Mr. Roderick Dow of Lowood, Hasketon, Woodbridge, Suffolk, a well-known collector of British War Medals, is about to dispose of his collection, in doing which he is anxious that medals in his possession should go to the Regiments to which the original recipients formerly belonged. Mr. Dow is preparing lists of the Medals in his collection and these will shortly be ready, but in the meantime he will be glad if any Regiments which have, or propose to raise, collections of medals won by those who served in them, will communicate with him at the above address, when he will supply all information; the prices to be paid will in each case be those which Mr. Dow himself originally gave for them, plus a small percentage for postage and other expenses.

## Queen's Royal Regiment (2nd Foot)—Museum at Guildford.

The Officer Commanding the Depot The Queen's Royal Regiment (2nd Foot), Guildford, asks us to say that he would be very glad to hear of any articles connected with the Regiment suitable for the Regimental Museum which is being formed.







THE BATTLE OF THE BOYNE

*From an old engraving*

A MECHANIZED FORMATION

# THE JOURNAL

OF THE

## Royal United Service Institution

Vol. LXXIII.

FEBRUARY, 1928.

No. 489.

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All communications (except those for perusal by the Editor only)  
should be addressed to the Secretary, Royal United Service Institution.]

### A MECHANIZED FORMATION

By COLONEL C. N. F. BROAD, D.S.O., p.s.c.

On Wednesday, 9th November, 1927, at 3 p.m.

GENERAL SIR GEORGE F. MILNE, G.C.B., G.C.M.G., D.S.O., LL.D.,

(Chief of the Imperial General Staff), in the Chair.

THE CHAIRMAN introduced the Lecturer, pointing out that he had served in the Royal Artillery and in the Royal Tank Corps, both of which Corps were very much wrapped up in the subject of the lecture; also that he was the head of the Department of the War Office which deals with the policy of mechanization in the Army.

#### LECTURE.

*Different Forms of Mechanization.*—It is imperative for me to begin by defining a little more clearly the term "mechanization," which has been the term generally employed to cover the change from horse draft to mechanical draft. This process may be due to reasons of economy or efficiency, or for lack of horses. That is one form of mechanization.

But there is another form of mechanization that was called the "bus convoy" during the Great War. "Bus convoys" have advanced considerably in the last few years, since formations can now be accompanied by their first and second line transport. Under this

heading may be included the modernization of all formations which fight on their feet, although we do not yet know where the process is leading us. It includes the mechanization of machine guns; it may mean the armouring of them.

A third form is the creation of actual fighting units in formations similar to this year's Experimental Force on Salisbury Plain. Such a force may be constructed either to fight against a like force or against a man-power force. By a man-power force I mean a force more or less such as the armies of to-day. Naturally, the organization and tactics of a force of this type would differ according to circumstances.

I now propose to speak about such a force organized to fight against a man-power force, and I will call it an armoured force for the following reasons.

*The Armoured Force—Reasons for Name.*—During the last thirty or forty years the evolution of warfare has tended towards stabilization. First of all there were introduced in succession the breech-loading rifle, the magazine rifle, the machine gun, and finally, quick-firing field artillery. These weapons rendered attack so slow a process that eventually it became possible to introduce masses of barbed wire on to the battlefield. All this tended towards immobilizing infantry. That tendency was beginning in the South African War; it reached a far more advanced stage in the Russo-Japanese War, and resulted in an almost complete stabilization in 1916.

Now that would matter little if that were all. But it clearly leaves the victor as badly off as the vanquished. It is commonly said that another Great War would end civilization, and we might thus perhaps return to open warfare once more. But evolution generally works in a better way; it has already produced two phenomena which will tend towards a more fluid state of warfare, and in a more gradual manner.

*Factors tending towards this more Fluid State.*—The first is the appearance of the petrol engine; the second is gas—what we call gas warfare.

The petrol engine has brought about two results: firstly, the aeroplane; secondly, the tank. I do not propose to discuss aerial warfare, but shall only mention the aeroplane in its effect on ground warfare. First of all it will be admitted, I think, that the aeroplane is distinctly antagonistic to what may be described as "the national army idea," that is an army based on docks, depots, dumps, masses of men in camps and the like; these being all highly vulnerable to aerial attack. A small army that moves quickly is not so vulnerable. Again, the air is very helpful to a fast-moving army in reconnaissance, provided that it has sufficient strategic mobility to use the information provided by the aeroplane. Lastly, I think that one of the difficulties of this rapidly



#### A MECHANIZED FORMATION

moving force, i.e., the difficulty of supply, will be overcome by the air. Every day the aeroplane grows larger; it is lifting greater bulk for its power, so that we may see a line of communication established partly in the air. This is scarcely a visionary idea, if—as reported—the latest aeroplane is to have a gross lifting capacity of fifty tons.

The next factor is the tank. In the last war the infantryman was tied down by the machine gun and by wire; so he lost to a great extent his mobility on the battlefield, i.e., his ability to move and attack. We developed an unprecedented amount of artillery whereby he regained his mobility, but the destruction wrought by that artillery led almost to the same state of affairs as the immobility created by the machine gun. Then came the petrol engine, which enabled the soldier to employ armour. That armour enabled him to cross the wire and to come up to the machine gun, i.e., the petrol engine brought back tactical mobility to the battlefield. We can thus claim this to be the first step towards a more fluid state of warfare.

As to gas. We had no great experience of gas in the last war, but such experience as we had showed that masses of men are very vulnerable to gas. Whole batteries were put out of action in one night, while entire areas were made untenable by mustard gas. Experiments have since produced clothing which protects the man perfectly, but it is so heavy and thick that the soldier loses his power of marching; so we are no better off. Gas warfare may therefore be stated to be antagonistic to the national army.

If, however, the soldier is mounted in a vehicle, to a certain degree he will escape from the dangers of gas. It is not impossible to make a vehicle gas-proof. Without going so far, the soldier will still obtain overhead protection; he can wear a mask without great discomfort; above all he is not in contact with the ground. Decontamination of wheels and track is a simple problem compared with decontamination of areas and large marching formations.

My first deduction is, therefore, that all the men serving in these formations must be mounted, that is to say, they must be carried in mechanical vehicles. The second, that all those who are in the fighting portion of the force must travel in vehicles that are armoured, not all completely proof against everything, because that is impossible, but all armoured.

**Factors affecting Organization of Military Formations.**—My next points are the various factors affecting the organization of any military force.

The first is that concerning the balance between short range and long range weapons. A cursory study of military history shows that any



army which adheres exclusively to one of these—either the shock or the fire power weapon—has always been vanquished by another which possessed both.

The army of the Roman Republic depended practically on shock. It had javelin throwers, slingers and so forth, but they did not count for much in the Roman armies which conquered the then known world by discipline and by shock action. Their enemies were no better off and had no better ideas, so all went well until Rome encountered the Parthians of Mesopotamia who had evolved an idea, new at that time. The Parthian Army consisted of two corps, a mounted force of considerable strength and an infantry army. The mounted force is that which now interests us.

It consisted of two main divisions. The first was composed of heavy mounted archers, in which both horses and men were armoured, the men carrying a heavy bow projecting a shaft capable of piercing the armour worn by the Romans; they also carried a heavy lance. The second division consisted of light archers mounted on lighter horses and carrying very much lighter armour; they were very proficient and could shoot over the horse's tail or in any direction at full gallop.

Finally, they had an elaborate system of ammunition supply. Arrows were brought up to the firing line on camels and no man went back for ammunition.

War broke out, whereupon a Roman force 40,000 strong invaded Parthia. The king of Parthia sent his infantry army northwards into the mountains to fight the Armenians who were allies of Rome. But he also put into practice another military axiom, namely, that of locating his forces in terrain suitable to their characteristics. So the mounted force waited in the plains of Mesopotamia until the Roman army, which had few cavalry, debouched from the hills. There they found little indication of the enemy's forces until reaching the River Belissus. Crassus, the Roman general, wanted to stay there and rest, but his son, a dashing young officer commanding the cavalry, urged him on. So they crossed the rise, and at the other side of a hill the Parthian host came into view. The Romans were attacked by the light archers, who fixed them, made them close up, whereupon the heavy archers advanced. They could not be hurt by the Romans, and so came closer until they shot down the Romans. Crassus the younger, obtaining his father's permission to lead the Roman cavalry against the enemy, disappeared over the rise. All trace of him was lost, until his head was thrown into the Roman square. This fighting lasted three days, when Crassus the elder was killed, and very few Romans escaped. The only thing that saved them was that the Parthians had to draw off at night to graze their horses.

In case it should be thought that the Parthian success was due more to the mobility of the horse than to a correct proportion between shock and fire power, I would ask you to consider the knight of the Middle Ages, a type of soldier who imagined that nobody but his own kind mattered in battle; he did not pay attention to infantry, who were practically unarmed. When a battle took place it was purely an encounter of armed knights. This state of affairs lasted in Europe pretty well until the French chivalry met the English forces which had been organized for both shock and fire action. The archers of Edward III and of the Black Prince defeated the French host. This was a result of fire power. Yet it was not a complete rout, for the English had not sufficient shock power to follow up their success.

I think we may deduce that our modern armoured force must have both fire power and shock in its composition.

One word now about shock. For many years it has been commonly held that the final argument in war is the infantryman armed with the bayonet. But is this always so? The Parthian had no shock power. Fire, in fact, is just as deadly as shock, since there is no point in bayoneting a man already dead. Fire is possibly equivalent to shock when it is delivered at so close a range that its moral effect is that of the actual charge. The Parthians, however, carried their cold steel weapon, and so must the armoured forces of to-day. That is not, however, the shining points of bayonets, but the cold embrace of the track, possibly more deadly and just as frightening. As a large scale example of this may be adduced the company of whippet tanks that caught a German battalion in close formation in the open at Villers-Bretonneux. The tanks could go faster than the Germans could run, so the tanks went through them and through them again, until the Germans were destroyed. It results from this that we must have the track in some part of the fighting portion of our forces, and that the armoured vehicle must have sufficient stability and solidity to drive through and over masses of men, guns and military obstacles.

The next factor is that of reconnaissance. The aeroplane is required for tactical and strategic reconnaissance, but I wish particularly to study ground scouting. It will be accorded that the aeroplane must be of great assistance to this armoured force if it can ground scout. Towards the end of the Great War special squadrons were detailed to work with the Tank Corps, and by these means a greatly increased efficiency was obtained. A fine example of this ground scouting occurred at the end of 1918. A river had to be crossed inside the enemy's lines, and it could not be reconnoitred except from the air. Aeroplanes were put to it and found the exact places for the tanks to

cross. After the Armistice this reconnaissance was checked on the actual ground, whereupon it was found to be entirely accurate. The pilots who had been specially trained for the task were able to locate details of this kind from the air. So I think we may argue that we need squadrons specially trained to work with our armoured forces.

The air reconnaissance must, of course, be always supplemented by ground reconnaissance. It is interesting to revert to the example of Napoleon in this respect, for he is said to have been the general of his time best served with information. He used to send out mounted patrols of special officers, and through them obtained remarkably good information—until he went to Russia in 1812. There the French reconnaissance officers met the Cossacks and found it most difficult to penetrate their screen. The penalty of being caught by them was no doubt death, or worse; anyhow the reconnaissance officers began to lose their nerve. Then they entered villages and would ask the inhabitants what lay ahead, sending in as their report what they gleaned in this fashion. The French information system broke down.

It seems then that the reconnaissance organization of this force must be sufficiently armoured to keep up its morale. The man in a reconnaissance machine is more conspicuous than a man crawling up a ditch or a horseman stealing along a hedge. If he feels that his machine is not reasonably bullet proof, then he may lose his nerve and no information will be gained.

We now come to the question of close combat. Our armoured force is going to fight a man-power army, but we must expect that most nations, even if they have not gone as far as making special armoured formations, will have the support of armoured units. When an attack has been delivered and the armoured force is disorganized, that will be the moment to expect an attack by the man-power army. During the war, for very excellent reasons, we produced a tank called the medium "C." That tank was unable to fight another tank, that is to say it did not carry a weapon which could knock out the enemy tank; such a machine was not needed. Now-a-days, however, it is becoming imperative that every tank should be able to meet its own kind; therefore it must carry an anti-tank weapon.

The last factor is that of mobility, a most important point, since upon it depends our ability to make strategic marches, and above all to pursue. How far is armour going to destroy the mobility of the force?

As a guide to the standard required the attached Tables are of interest. The figures appear conclusive and I think we may deduce that the amount of armour we are putting on our vehicles at present has not

TABLE I.—MARCHES.

No.	Date.	Days.	Commander.	Force.	Total distance in miles.	Average mileage per d. m.	Remarks.
1	March 12th-15th, 1241	3	Sabutai	Adv. Guard	180	60	Ruska Pass to Gran on R. Danube.
2	March 12th-17th, 1241	5	"	Main Body	180	36	Snow on ground.
3	Oct. 31st-Nov. 16, 1804	17	Lord Lake	6 Regts. & R.H.A.*	420	25	Pursuit of Holkar in India.
4	July 4th-28th, 1862	24	Gen. Morgan	1,000 Cav.	1000	41½	Raid into Kentucky.
5	March-April, 1806	43	Gen. Smith	6 Regts. & R.H.A.	700	16½	Pursuit of Ameer Khan.
6	Oct.-Nov., 1806	24	Murat	3 Cav. Divs.	500	21	Pursuit after Jena.
7	May, 1863	3	Gen. Forest	1,000 Cav.	123	41	Continual fighting, 1,700 men eventually surrender to 500.
8	Sept.-Oct., 1918	38	Lord Allenby	5th Cav. Div. & A.C.'s.	567	15	11,000 prisoners and 58 guns captured in 6 actions. A.C's. were 48 hours ahead of cavalry at end of march.
FORCE.							
1	May & June, 1922	12	1 Coy. Rolls Royce A.C's.		600	50	Hillah Reconnaissance. In Mesopotamia.
2	May & June, 1922	5	2 Coys. Rolls Royce A.C's.		342	68	Mosul Reconnaissance.
3	February, 1925	7	2 Tanks		294	42	Ahmednagar to Belgaum.
4	Aug. 30th-Sept. 16th, 1927	18	1 Coy. Light Tanks (13)		257	14½	Divisional manoeuvres. All tanks went out each day except on one occasion.
5	Sept. 7th-15th, 1927	9	1 Bn. Light Tanks (47)		182	20	45 paraded on last day. 39 completed march.

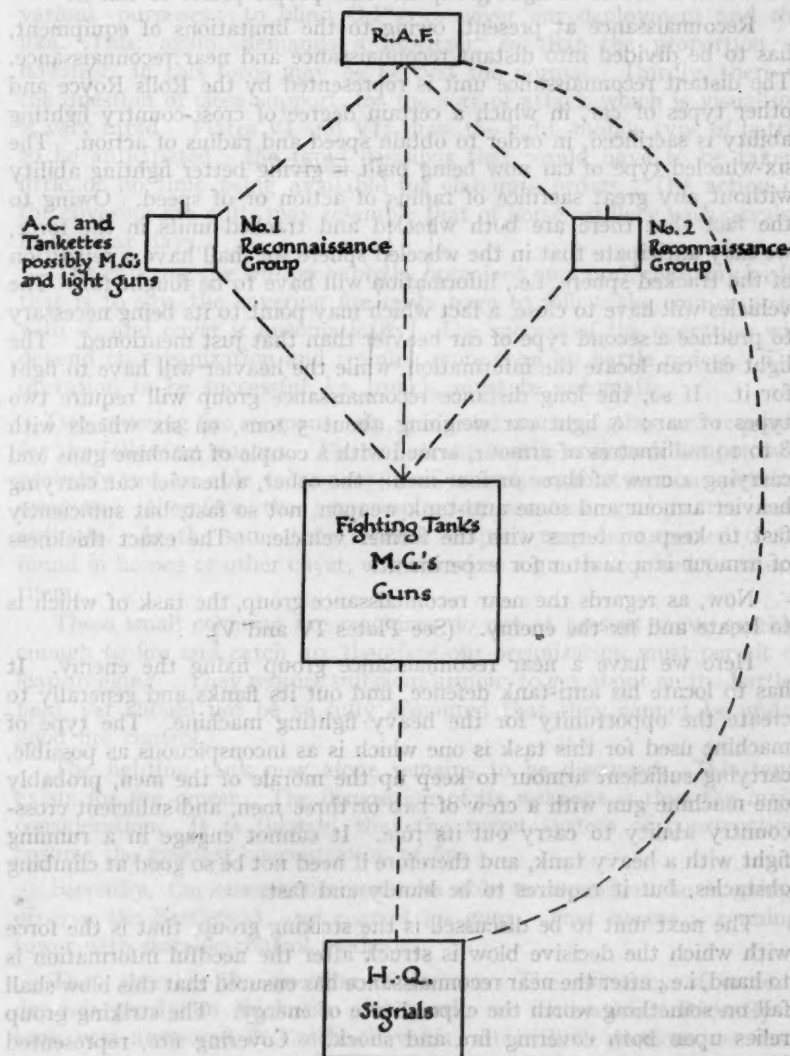


TABLE II.—MARCHES AND ATTACKS.

No.	Date.	Commander.	Force.	Distance in miles.	Total time in hours.	Remarks.
1	Nov. 15th- & 16th, 1804	Lord Lake	6 Regts. & R.H.A.	70	24	Final attack after 350 miles march.
2	October, 1862	Gen. Stuart	1,800 Cav. & 4 guns	90	36	Continued fighting against superior numbers.
3	July, 1863	Gen. Morgan	—	90	35	Raid into Kentucky.
4	September, 1918	Lord Allenby	4th Cav. Div.	85	34	Including passage of Carmel Range, and several actions. The other two Divs. did not go quite so far.
1	May, 1922	1 Coy. Rolls Royce A.C's. with transport (16)		105	24	This was the average run for 9 days out of 15 consecutive days on Mosul Reconnaissance over all types of country in Mesopotamia where roads are practically non-existent.
2	August, 1925	1 Section Rolls Royce A.C's. (4)		150	24	Reconnaissance behind enemy's lines on manoeuvres.
3	1925	1 Section Light Tanks (4)		105	14	All road. (All vehicles in and including all halts).
4	1925	2 Sections Light Tanks (8)		60½	7	Ditto. do. do.
5	Sept. 15th, 1927	1 Bn. Light Tanks (47)		90	24	Last day of month's manoeuvres in which average of all tanks was 322 miles. 6 Tanks did not complete final march. 90 miles, included 2 attacks, 1 by day and 1 by night.



## ORGANIZATION (Plate I.)



damaged their mobility. The whole question deserves most careful study, for, as we are only at the beginning of this stage of mechanization, things can, of course, be improved to a great extent.

*Composition of the Armoured Force* (see Plate I).—I will begin with the reconnaissance or light group as some people prefer to call it.

Reconnaissance at present, owing to the limitations of equipment, has to be divided into distant reconnaissance and near reconnaissance. The distant reconnaissance unit is represented by the Rolls Royce and other types of car, in which a certain degree of cross-country fighting ability is sacrificed, in order to obtain speed and radius of action. The six-wheeled type of car now being built is giving better fighting ability without any great sacrifice of radius of action or of speed. Owing to the fact that there are both wheeled and tracked units in the force, we may anticipate that in the wheeled sphere we shall have a repetition of the tracked sphere, i.e., information will have to be fought for. The vehicles will have to close, a fact which may point to its being necessary to produce a second type of car heavier than that just mentioned. The light car can locate the information, while the heavier will have to fight for it. If so, the long distance reconnaissance group will require two types of car; a light car weighing about 5 tons, on six wheels with 8 to 10 millimetres of armour, armed with a couple of machine guns and carrying a crew of three or four men; the other, a heavier car carrying heavier armour and some anti-tank weapon, not so fast, but sufficiently fast to keep on terms with the former vehicle. The exact thickness of armour is a matter for experiment.

Now, as regards the near reconnaissance group, the task of which is to locate and fix the enemy. (See Plates IV and V).

Here we have a near reconnaissance group fixing the enemy. It has to locate his anti-tank defence, find out its flanks and generally to create the opportunity for the heavy fighting machine. The type of machine used for this task is one which is as inconspicuous as possible, carrying sufficient armour to keep up the morale of the men, probably one machine gun with a crew of two or three men, and sufficient cross-country ability to carry out its rôle. It cannot engage in a running fight with a heavy tank, and therefore it need not be so good at climbing obstacles, but it requires to be handy and fast.

The next unit to be discussed is the striking group, that is the force with which the decisive blow is struck after the needful information is to hand, i.e., after the near reconnaissance has ensured that this blow shall fall on something worth the expenditure of energy. The striking group relies upon both covering fire and shock. Covering fire, represented by guns and machine guns, is required for three purposes, since

it is probable that the defending force will endeavour to destroy the attack at long range. Our ability to manoeuvre will assist us in avoiding that, although it may be anticipated that counter battery work will be required. Consequently, the first form of covering fire is counter battery work, and this indicates a howitzer. Secondly, we require smoke for various purposes: to blind O.P's, to cover our deployment and the like. This, again, demands a howitzer, so that the proportion of howitzers in this force may be beyond the normal. Thirdly, there is the question of close support, for the sort of attack which is visualised is very rapid. Plates VI and VII show the light, mobile type of battle to be anticipated; the rapid decisions that would have to be taken, little or no time being available for elaborate orders. The action of the covering fire units may resemble that of horse artillery with cavalry in pre-war days.

The covering fire will probably be organized on a tank company basis, that is to say, the covering fire units have to follow the company, go with it, and cover it automatically. The success of the operation will depend on organization and training more than on battle orders. The operation to be successful, i.e., quick, must be automatic.

Two covering fire weapons, viz., guns and machine guns, are required for the following reasons. First of all the hostile anti-tank weapon will probably not be able to armour itself entirely against armour-piercing weapons; therefore the armour-piercing machine gun is the best antidote. At the same time certain weapons may be expected to be found in houses or other cover, and therefore a gun is required to attack them.

These small covering fire machines do not at present move quickly enough to fire and catch up, therefore our organization must permit of leap-frogging. They require sufficient armour to get about on the battlefield, yet should not be so fully armoured that they cannot be under good fire control.

The fighting tank now alone remains to be discussed. This tank exists for fire power. The disposition of its weapons is thus the main consideration. It is thought that the turret system of construction ensures the greatest concentration of fire.

Secondly, the commander must be able to see where he is going, observe the battlefield, and control his guns. That means a conning tower with suitable control methods.

Then there is the question of armour. The efficiency of armour depends partly on thickness and partly on inclination. Recently a tank was armoured in Czecho-Slovakia, all in little sections, so that every section could be at a different angle to the next one, making it

almost impossible to give it a square blow, and enabling thinner armour to be used. This, however, proved to be an impracticable manufacturing proposition. The problem of armour therefore lies between thickness, inclination and manufacturing processes.

The next important point is communication between the Section Commander and his tanks. He must be able to control them by wireless and flags or lights. Wireless is the main line supplemented by a second line. This accomplished, we have an ordered military formation capable of assuming proper fire formations, capable of firing at the targets indicated, and of taking advantage of all opportunities.

Other small difficulties then arise. The tank should be as stable as possible from a shooting point of view. The centre of gravity must be taken into consideration; it must be well forward to get good climbing. Storage is always a difficulty. You must have storage for petrol, oil, grease, food, water, ammunition, first aid and possibly also clothing. These things have to be balanced up, so as to get a full equipment for the designed radius of the machine. Our aim is to get the greatest armoured combination of fire power and energy that can be driven along at, say, fifteen miles an hour.

*Leadership.*—Finally, one word about leadership. It will be realized from the diagrams that we hope the fight will be extremely rapid. It will resemble the type of mounted combat of Frederick the Great's cavalry. Probably some of the lessons of that time may apply. The leadership, of course, has to be personal. Frederick had two great cavalry generals, Ziethen and Seidlitz, both men who led their squadrons, and even whole divisions, personally. This is the only way to get things done quickly enough. We shall have wireless in these days, but probably control will also depend largely on messengers and staff officers, who, like Napoleon's A.D.C's, know their general's mind, are able to give commanding officers correct instructions, and do not leave the latter until it is clear that they are launched in the right direction.

The necessary qualities are so rare that not many out-standing examples can be quoted. At least two, i.e., the Duke of Marlborough and Cromwell, have been produced by this country. Marlborough was very astute, and issued no preliminary orders except such as were false, so that hostile agents might obtain faulty information. As soon as these were shaken off, he counter-marched, possibly all night and made his attack, leading his squadrons in person in order to ensure rapidity of movement, so much so that on two or three occasions he was himself unhorsed in action. Cromwell did exactly the same, always leading in person, being so cautious in preparation that he would not allow his troops to charge at anything more than a trot until he had complete control.



What are these qualities? Personally brave, yet extremely cautious; reckless in pursuit, yet cunning; accuracy in preparation, and dash in execution—very rare qualities to find in combination; to these you must add an eye for country and the quality of decision.

The old Chinese sage, who was a soldier too, has described that quality of decision as "the swoop of the falcon which enables it to strike and destroy its prey." Such must be the leadership of the striking group.

Finally, let us consider our position to-day as a nation. We possess magnificent steel and motor industries; consequently we can create these armoured forces better than any other nation. Secondly, we possess a national ability for shooting, which has been shown on endless battlefields from Cressy to Mons. Our tactics have not been great, but the shooting of the British soldier has always been excellent. Shooting from armoured vehicles in movement is more difficult than musketry, but we have a long service system, and that, combined with our national ability, should place us far ahead of any foreign conscript army in this form of fighting.

I have only discussed the problem of the armoured force and have not touched the rest on account of its length. Opportunities for infantry will remain; in certain types of country it will remain predominant; probably the same condition applies to mounted troops as well. In other regions we shall find armoured forces holding the field. Let us, therefore, follow our star and forge this weapon, and when we have forged it perhaps we shall find another Marlborough or another Cromwell.

#### DISCUSSION.

COLONEL T. N. S. M. HOWARD: I rise with some diffidence to make a suggestion. It seems to me that the rôle which the men in the tankettes and in the tanks will play in the armoured armies of the future is *exactly similar* to the rôle which has been carried out by the cavalry and the infantry in the unarmoured armies of the past. The infantry battalion is the basis of the old unarmoured army, and the tank battalion is the basis of the armoured army of the future. It is the arm which "in the end wins battles" and with which "the final decision rests," or, as now put in our text-books, confirms victory. The men in the tanks appear to be carrying out exactly the same rôle in the armoured army. Again, they both employ the same means to achieve success, i.e., the bullet: in the case of infantry against unprotected men; in the case of the men in tanks, armour-piercing bullets as well as ordinary bullets, against men who are protected or unprotected as the case may be. Is it not the case that the infantry leopard is changing its spots and evolving into a tank panther? In other words, that the men in the tanks are infantry and the men in the tankettes are cavalry. The important point is that the tasks of the infantry and the cavalry, of what we know as the "Old Army," are passing to a creation that purports to be a new arm, but



which in reality is not an arm. I submit it is a matter for consideration whether our old units should not be armoured and made mobile by mechanization, and that, when thus re-organized, they should be left the honour of carrying out their old rôles under their own titles and traditions—as in the case of the Artillery.

CAPTAIN MACLEOD ROSS: As a military engineer, I would draw attention to an aspect of mechanization that is largely overlooked. It is unfortunate that mechanization should invariably be defined to mean simply mobility. I, therefore, suggest that the acceptance of the broader definition "the utilization of power to increase the output of the individual" would direct our thoughts to the true purpose in view. Mechanization admittedly does happen to mean increased mobility to every arm of the Service, but, in the case of the field engineer in particular, it should also mean the increased output of the individual. If the evolution of our mechanized force is to be successful and entirely efficient, it is essential that there should be a balanced development of all the arms composing it. Field Engineering is now suffering from a considerable handicap. If this symptom develops, a bottle-neck will arise, and I have no hesitation in saying that the military engineer is particularly anxious that this bottle-neck, which will reduce the average mobility of the whole Army, shall not be found within his ranks.

There is no doubt that this new mobility is going to increase the calls to be made upon the field engineer. His problem has always been how to do more work in less time, and that problem is more acute than ever to-day. Yet the solution of the problem lies not, as in the past, in an increase in personnel, but through the utilization of power. Mechanization of the field engineer should not simply mean supplanting the tool-cart teams by an internal combustion engine driving 15 cwt. of archaic tools at twenty miles per hour. The power of that engine must be utilized to operate mechanically driven tools and so enormously to increase the output of any given number of sappers. May I give you some examples? There is a power-driven tree feller on the market which will cut off a tree 26 inches in diameter, close to the ground, in 40 seconds, or 1/20th of the time necessary by hand. Consider the utility of such a tool for dropping trees across numerous side roads to block them against armoured car raids, or for the Commander who wishes to debouch his tanks from a wood which is to-day looked upon as an anti-tank locality. Not long ago an experiment was made digging pit props into the ground as a tank obstacle; 300 yards took 600 man-hours, and the obstacle was then ineffective. If the field engineer is armed with mechanically-operated tools, he can dig the holes, set steel beams in rapid hardening concrete and in one quarter the time produce an effective obstacle. What chance will the field engineer have against concrete and stone bridge abutments required to be demolished, unless he possesses a pneumatic drill and pick, and what impression can he make on the preparation of an area for an aerodrome in the time available without mechanically-operated diggers and scrapers? Now the field engineer wants a number of these tools combined on one vehicle, so that he can tackle efficiently what in war will constitute probably 80 or 90 per cent. of his work, and work to which, what I call, erectable equipment, e.g., the stock span bridge, can never be applied. Our problem is how to turn ploughshares into swords. These tools exist singly; they must be combined in one vehicle and the field engineer can then be armed with an adequate number of such vehicles. The morale of an Army depends on many things, not the least of which is the confidence of the soldier in his weapons, the confidence of the sapper in his tools. I claim that our present tools are anachronisms. Until we possess modern tools the field engineer will never achieve his ambition—the ability to change the face of the countryside overnight, if it should be his Commander's desire.

MAJOR-GENERAL IRONSIDE: I only rise to agree with the Lecturer's views. The composition of the present day infantry division is cramped by the idea that it will have to fight over a large expanse and variety of country which will be impracticable for such a force as has been described. Yet on thinking over some of the localities I have visited, I think there are not so many places where such a force could not be used. Perhaps in North Persia, a very hard mountainous and rough country, we could not use a force like that.

Again, I think that the large armies that follow such forces, will have to mechanize themselves and provide themselves with fighting armoured vehicles: else they cannot fight these new forces. I myself, with the organization we now possess, would be very perplexed if I met a force of this type. We now possess an anti-tank weapon; the whole of our thoughts have been turned in that direction. Yet, even so, the sort of force that has been shown in the diagram is terrifying. It is going to revolutionize war absolutely, even in the roughest countries in which we may have to fight.

COLONEL BROAD, in reply: As regards Colonel Howard's remarks, it is perfectly right, of course, that the principles of tactics remain immutable. The light tank and the heavy tank replace in a modernized form the infantry and the cavalry. The only reason that four battalions of the Royal Tank Corps exist is because nobody else would touch them. If the infantry and the cavalry are prepared to get into machines I cannot imagine that these four battalions are going to swallow up the army. At the same time there is the other side to the picture, namely, that there are numerous places where these machines cannot go. Major-General Ironside said that these were not so numerous as many people think. Yet the force in China must be largely an infantry force. You cannot take tanks to the North-West Frontier, or only in very small numbers in certain places. The infantry will still have an important rôle, so that it is not necessary for the whole of the infantry to rush into machines. If they do, we shall be searching high and low for men who can fight on their feet. That is quite different from fighting in a machine, although the principles of the tactics are the same.

The Royal Engineers, of course, occupy a very important part in such a force. Experiments of this nature are now being carried on by the 17th Field Company. Most of my time is now spent in either trying to provide, or failing to provide, the many types of modernized machinery demanded by this unit. If we supplied everything that the Royal Engineers in the mechanized force asked for we would absorb the entire annual estimates. The activities of that Field Company are at present mainly devoted to bridges, an important part of the problem with a force of this kind. Although it can use its mobility to go round, it will often have to cross water of various kinds; in consequence, the Royal Engineers are completely revolutionizing our ideas on bridging. Another question is the mine. It is quite possible to make a very small mine, of which a large number can be carried in a lorry; when needed they are planted about a foot down in the ground. It will be perfectly possible to form depots at different places that will be perfectly safe from tank attack, or make it so dangerous for them to attack that it will not be worth their while to do so.

THE CHAIRMAN (GENERAL SIR GEORGE F. MILNE): Before making a few concluding remarks, I should like to express my full sympathy with the point raised both by Colonel Howard and several points raised by Captain Ross. You noticed, I hope, that when I introduced the Lecturer I said that he was going to speak with knowledge, but I did not say that he was going to speak with authority. I did that intentionally, because I had not even read his lecture before

he delivered it. I did not know what he was going to say, and had given him permission to say anything he chose on this occasion. But I think I ought to make it quite clear to you all, because possibly it may save future correspondence in the Press, that the Army Council take no responsibility for the views he has expressed. I do not say that I disagree with him, but I do not take the responsibility.

Now a great deal has been written lately on the subject of "mechanization," and I had rather hoped that to-day we might draw those who hold divergent opinions, but they have refused to come forward. As far as we have gone, our work has been entirely experimental; I think this should be clearly understood. Nothing has been settled and we do not as yet know where we are. We are trying out the machines. The whole of what was done last year consisted of pure experiment. A few people are inclined to deduce from what they saw that certain things will happen in the Army. All I can say is that they know more than I do at the present moment. Some writers even prove conclusively that the whole of the infantry and the cavalry will be done away with in the future, and that wars will be won by machines driven by, as they call them, "robots." On the other hand, in a recent book, the author proves to his satisfaction exactly the contrary. The situation in which the Army Council is now placed rather resembles that which faced a distinguished Roman soldier a good many years ago. If you read Macaulay you will find that a certain gentleman held the bridge, and "those behind cried 'forward,' and those in front cried 'back.'" That is our position at the present moment.

We do not know where the next war is going to take place, while we have to restrain ourselves in our experiments because we have not got the money to waste in buying machines unsuited for one country but suited for another. You can fully realize that machines which would go very easily across a country like France would be quite impossible for use, say, in East Africa or Central Asia. What we are doing at the present time is to experiment to get the very best mechanical weapon, the best mechanical fighting vehicle and the best mechanical transport for the Army. In doing so we have to act cautiously, so as not to upset the traditions, the *esprit de corps*, and the feeling of the Army as a whole. To win a war, just as of old, we require men, material and reserves, these three, and the greatest of these is men. We must have men physically and morally fit to stand the strain of war. That is the very first essential for the Nation, whether the Army is mechanized or marches on horse or on foot. I have said that the greatest of these is men, yet the most essential of all is the man, the leader. The most perfect mechanized armoured force is of little use if we have not got men capable of leading it; but I feel certain we have the men in the Army at the present moment.

I want to make it quite clear to you that whatever comes of mechanization, the great principles of war will still remain. We may change our methods and our weapons, but the principles that have won our wars in the past (and in spite of all our difficulties we have generally won them), if they are adhered to, will win them in the future. I urge you therefore to bring up your sons in the traditions of their ancestors, and for further advice I would refer you to one who, though not a soldier, was a great Englishman, who wrote some centuries ago. I will alter only one word in his clearest possible statement of our national necessities:—

"Come the three corners of the world in arms and we shall shock them.

Naught will make us rue, if Britain to herself do rest but true."

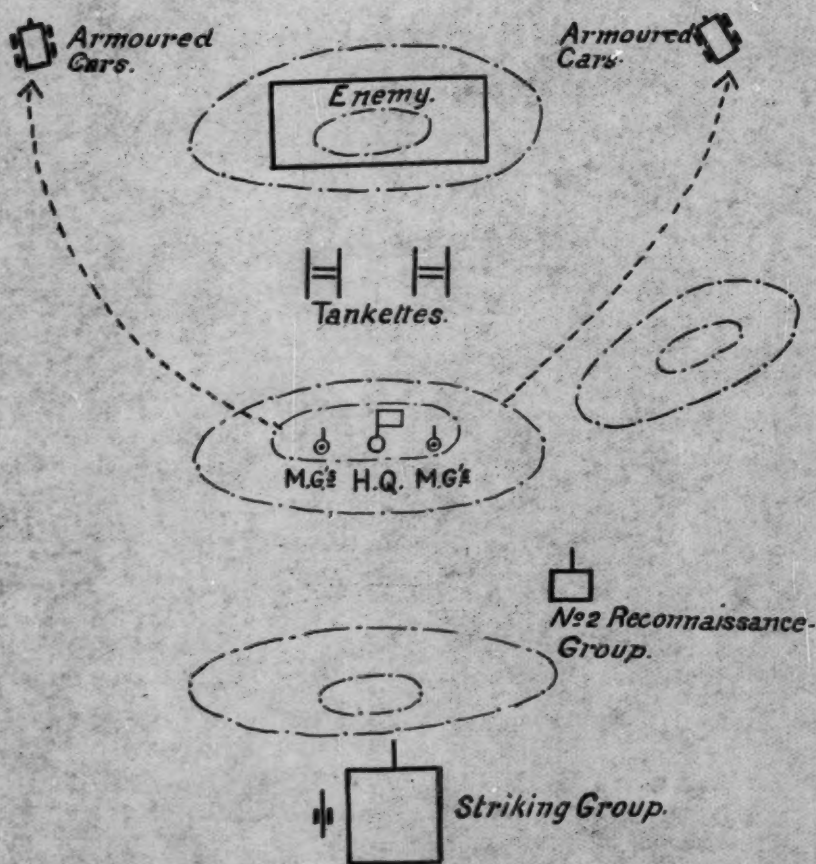
The customary votes of thanks to the Lecturer and Chairman brought the proceedings to a close.





# DIAGRAMMATIC ATTACK

## No. 1. Reconnaissance



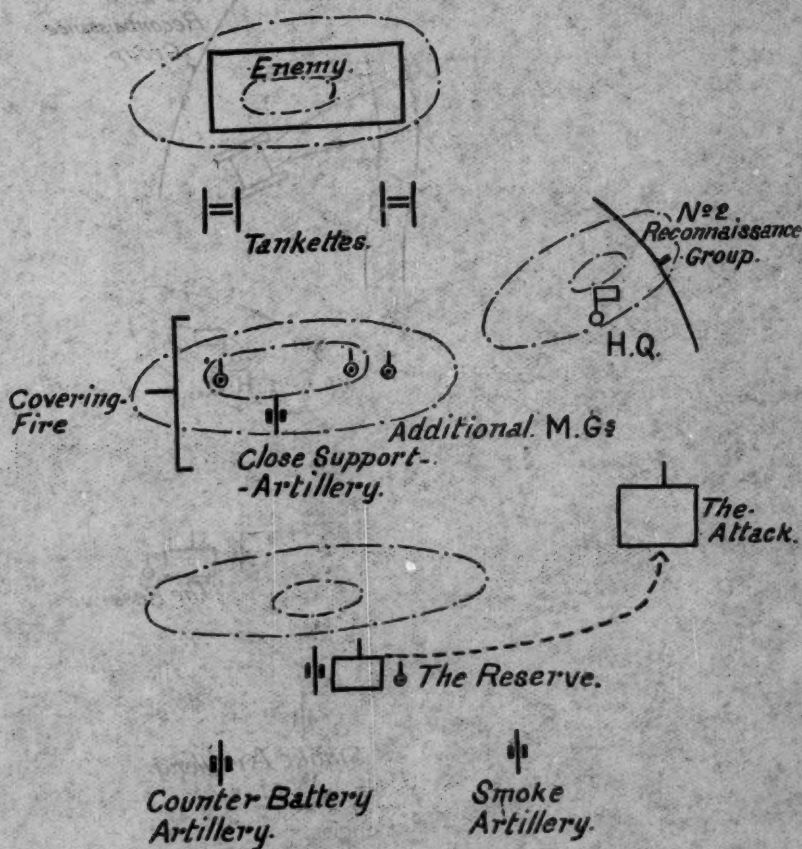
### POINTS.

- 1.—Reconnaissance to locate enemy.
- 2.—H.Q. well forward.
- 3.—M.Gs. forward to take advantage of information gained by tankettes.



# DIAGRAMMATIC ATTACK.

## No 2 Deployment

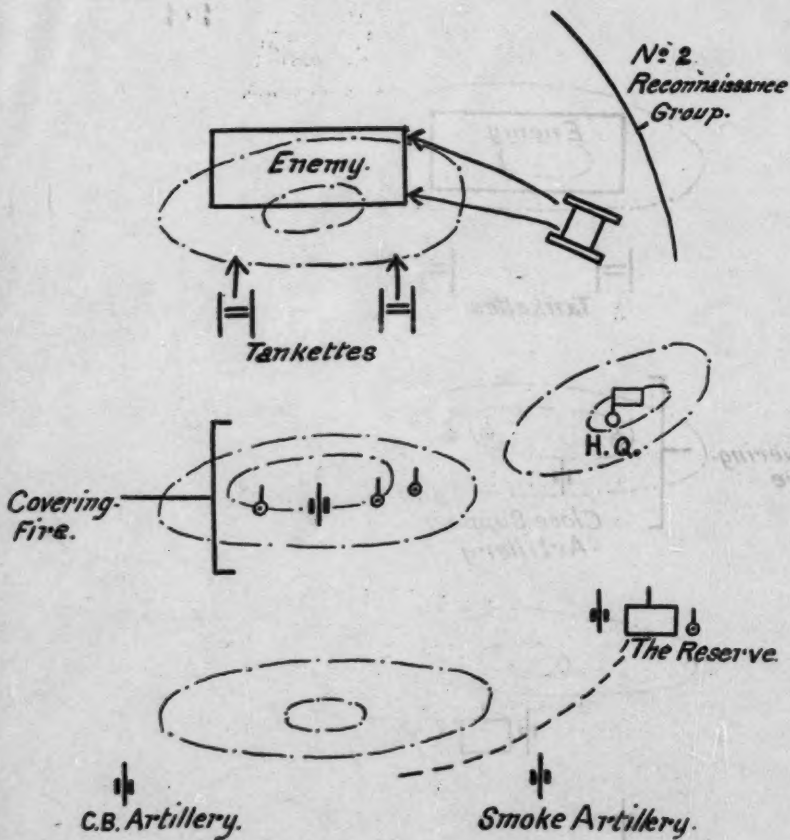


### POINTS.

- 1.—Enemy fixed by fire.
- 2.—Deployment covered and protected by artillery and No. 2 Reconnaissance Group.
- 3.—H.Q. moves to battle area.

# DIAGRAMMATIC ATTACK

## No 3 Attack.



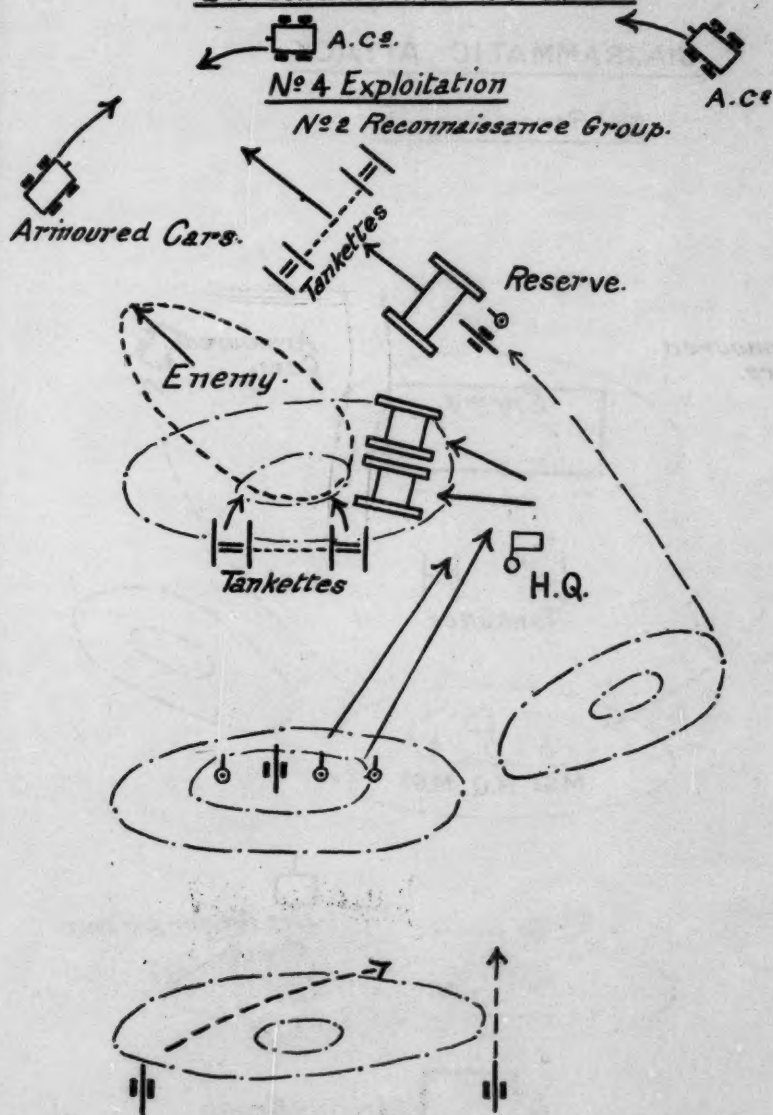
### POINTS.

- 1.—Covering fire and assault at right angles.
- 2.—Outer flank of attack protected.
- 3.—Reserve moves to take advantage of attack.

### POINT

- 1.
- 2.
- 3.

# DIAGRAMMATIC ATTACK



## POINTS.

- 1.—Reserve covered by No. 2 Reconnaissance Group pursues
- 2.—A.C.s. protect flank and go forward to delay enemy.
- 3.—H.Q. moves forward to re-organize attacking troops.



## THE BIRTH OF A STAFF SYSTEM

BY REAR-ADMIRAL C. F. DREYER, C.B., C.B.E.

*(This paper originally formed part of a lecture delivered by the Author at the Royal Naval War College, Greenwich, in 1924. It was contributed by him, for publication in the Journal, in April, 1927.—EDITOR).*

A PREVIOUS paper<sup>1</sup> outlined the influence of history on leadership in war and reference was made to typical great commanders who owed much of their success to a close study of the lessons of the past. At the same time mention was made of the fact that history has shown that there are increasing limitations to the powers of a single individual, however great his mental and physical strength, to conduct operations. As war has become more spacious and fighting more intricate, so victory has grown more and more dependent on a system where the leader is supported by a staff and an executive, trained to relieve him of the burden of detailed preparation and administration and to give effect to his plans by a thorough comprehension of his intentions.

It would be hard to find more striking examples of achievement through individual capacity and eventual failure due to its limitations than those embodied in the one person of Napoleon. A study of his methods reveals the fact that his amazing successes were due to his own personal knowledge and genius. His so-called staff consisted in reality of a great number of secretaries, messengers and adjutants, and a variety of separate offices in which questions, almost exclusively of an administrative order, were examined. In 1812, Napoleon, reproaching Marshal Berthier, his Chief of Staff, said: "The Staff is organized in such a manner that nothing is foreseen." Berthier, writing to Soult in 1807, said: "I am nothing in the Army. I receive in the Emperor's name the reports of the Marshals and I sign these orders for him, but I personally am a nonentity." Again, writing to Ney in 1807, he utters the same thought: "The Emperor, Monsieur le Maréchal, needs neither advice nor plans of campaign. No one knows his thought, and our sole duty is to obey."

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<sup>1</sup> "History and Leadership in War," published in the R.U.S.I. JOURNAL, of August, 1927.



The one officer who was perhaps to the greatest degree involved in Napoleon's intellectual work during his campaigns was Bacler D'Albe, an artillery officer, who was Chief of the Topographical Office for seventeen years and performed indispensable work in connection with the preparation of military operations. He approached most nearly to being a staff officer charged with elaborating the Emperor's decisions.

Napoleon's capacity for detailed work was so astounding that he appears to us in 1806 coping with the manifold duties of head of the Government, head of the Army, head of the Staff and Commissary of Stores. All authority was centred in him, and he alone could set all departments in movement. It could scarcely be otherwise, since a decentralisation of work would have necessitated a special preliminary education which not one of Napoleon's assistants had received.

Nevertheless, he was not so blind that he did not realise that he could not last under the terrific load he carried. In 1805 he said: "I shall be good for six years longer, after which I must pull myself up." Actually he began to decline after 1809. In September, 1806, he was already groaning under the burden and we find him complaining to the King of Württemberg that he was "the greatest slave of all mankind, obliged to obey a master who was heartless: the calculation of events and the nature of things."

Although the defects of his system should have been apparent, he failed to apply the remedy, and when the end came we find him at St. Helena criticising his Marshals and frequently making use of the significant expression that so-and-so failed "because he did not understand my system."

Fifty years later the lessons of the Napoleonic régime were evidently clear to Moltke, when he founded the modern Prussian Great General Staff, the original model of our own staff system of to-day. He undoubtedly appreciated, too, what is so clear now, that no country can count on producing at the psychological moment, a commander who is a genius, whereas it is at least possible to maintain the necessary standard of staff organisation, work and education.

Amidst the vicissitudes and chances of war, mistakes are bound to be made in future, as they have been in the past, but such risks are greatly reduced when leaders, staffs and executive officers are trained to common doctrines.

It was just this which Moltke set out to achieve. From 1857 onwards, as Chief of the General Staff, he proceeded to educate the whole corps of officers of the Prussian Army. His aim was not only to train the higher leaders, strategists and tacticians, but also a staff to plan, organise

and instruct, and an executive who would carry out instructions intelligently and act correctly in unforeseen circumstances. He also carried on Scharnhorst's dictum of 1808, insisting on staff officers having an intimate knowledge of troops, of their capabilities and their weaknesses. So the Prussian staff officers were periodically returned to regimental duties. This practice not only provided a reserve of trained staff officers but it assisted in educating the regimental officer in unity of doctrine, whereby a brief note or even a hint could take the place of complicated orders.

It must not, however, be supposed that before the advent of Moltke the Prussians had no staff system. General Bronsart von Schellendorff, one of Moltke's right hand men as Chief of Operations in the 1870 campaign, in his book, "The Duties of the General Staff," tells us that the Prussians began by copying the system of the Swedes, whose staff organization was then looked upon as a pattern, and introduced it into the Brandenburg Army, under the rule of the Great Elector, in about 1655. Germany had been brought to recognise the efficiency of the system of command in the Swedish Army under Gustavus Adolphus by a first hand knowledge of the latter's many feats of arms between 1629 and 1632, during the Thirty Years' War, and again between 1700 and 1709, when the forces of the Swedish monarch, Charles XII, fought so valiantly against the hordes of Peter the Great. Incidentally, it may be noted that just after the Seven Years' War, in 1764, Frederick the Great founded his first War College.

Moltke was able to test his system when in 1864 Prussia and Austria went to war with Denmark. As a result of this trial, Schellendorff relates, some expansion and alteration of the General Staff became necessary. Again, in the war of 1866, which resulted in Austria being driven out of Germany, Moltke had the opportunity of further improving his system. Lastly, in 1867, he settled down to work out his war plan against France, which succumbed to the tremendous onslaught of the Prussians in 1870. This culminating effort was no more nor less than the result of the careful and analytical study of the history of war and the application of its lessons against an enemy who had neglected its teachings.

In connection with these achievements the following extract from Professor Spenser Wilkinson's "The Brain of a Navy," published in 1895, is of particular interest. Writing of Moltke, he says: "In 1862 he had been five years in his post. There was a quarrel brewing with Denmark, which early in 1864 became a war. Towards the close of 1862, Moltke received a note from his administrative colleague, Roon, asking whether he had considered the case of a war with Denmark.

'Certainly,' replied Moltke, 'that eventuality has been kept in view in this office'; and then he explained the war in a remarkable letter, which is too long to reproduce in full, but of which the gist may be given: 'As Prussia has not the sea power which would enable her to go to Copenhagen and dictate a peace there, the war will not be easy to end. The best way is to begin by capturing or destroying the Danish army; you must not beat it and let it run away, but induce it to stop and be captured. Failing that you will have to occupy the whole Danish mainland—best done when the waters are frozen.' Then followed an exact account of the Danish Army. 'In order to deal with it you will require 62,000 men, 192 field guns and two or three dozen siege guns. Enclosed is the programme for the first act.'"

Here, then, we see the strategist forecasting more than a year in advance exactly what his administration will have to expect.

The study of war, inculcated in the Prussian Army by Moltke, did far more than educate its officers in the profession of arms. It led to the establishment of a sound system of command, a system which proved a marvellous instrument in the hands of a great leader.

It was based on the recognition of three principles:—

- (1) That large forces cannot be effectively controlled if all orders have to emanate from a single headquarters;
- (2) That the man on the spot is the best judge of the situation;
- (3) That intelligent co-operation is of infinitely more value than mechanical obedience.

These principles may be said to form the basis of our system of command in the present day.

So far as the British Navy is concerned, we have to confess to having been slow to adopt the German system, which Colonel Henderson and other writers have compelled us to admire. This may be attributed largely to the fact that our predominant position at sea for so long made our naval authorities disinclined for any change. The methods of Kempenfeldt, Howe, Rodney, Hood, St. Vincent and Nelson had brought the Navy to a high pitch of efficiency culminating in the Trafalgar campaign. There followed a long period of peace during which there was little tactical or other development. In the middle of the XIXth century steam propulsion was introduced and with it a vast number of material changes which engrossed naval attention for very many years, often to the exclusion of a study of and preparation for war in its broader aspects.

In 1899 Sir John Fisher went to the Mediterranean as Commander-in-Chief, and, for the next three years, did very much to promote

study by giving lectures on war subjects and offering prizes for war essays. It is not too much to say that he rejuvenated the Navy and broke down the barriers of its conservatism. He was the first to carry out battle tactics between two fleets; while the development of the gunnery of the fleet and of the power and suitability of its ships and weapons, and the training of their officers and men was largely due to him.

In paying tribute to Lord Fisher's genius, we must not forget the foresight of Professor Spenser Wilkinson. Untrammelled by the immense work involved by the rapid changes in material, he had applied himself to the teachings of history. So we find him, in 1895, advocating the introduction of the German educational system into our Navy. He pointed out, too, that, at that time, there was no man in authority, either at the War Office or at the Admiralty, whose duty it was to study the next war and make plans of campaign.

However, the need for changes gradually made itself felt. In 1903, the Naval War College was started and in 1905 Staff Officers were appointed as such to Admiral's Staffs. In 1911, the War Staff Courses, forerunners of the Naval Staff College of to-day, were started. The latter, however, had not made anything like sufficient progress to meet all demands on the outbreak of war in 1914. The various Admirals' Staffs contained, in many cases, brilliant officers, but these were mostly self taught in staff work. Incidentally, it may be noted that, at that date, no navy had really established a staff system that was comparable in completeness and thoroughness to the old Prussian General Staff. It is always easy to be wise after the event.

The British Army had had the experience of the South African War to compel the adoption of Moltke's system. The Navy was working with tremendous energy to keep pace with the mechanical and scientific developments of peace.

In view of the amazing advance made in material, in the mobility of ships, and in the range and speed of communications, during the preceding twenty-five years in particular, it is indeed remarkable with what sureness the Navy did play its part in the Great War. Had a new staff system been adopted a few years before it was, we should, no doubt, have done even better.

It was certainly of assistance to us in 1914 to 1918 that the German Naval Staff had been over-ridden in pre-war days by Tirpitz as Secretary of State for their Navy. Their Admiralty had been split up into three parts, the head of each of which was responsible to the German Emperor for its work; all three were independent of each other.

This amazing state of affairs was the outcome of the action of Kaiser William II on his accession in 1888, when, prompted apparently by his

desire to command everything himself, he divided the German Admiralty into :—

- (i) The Emperor's Cabinet ;
- (ii) The Executive Command ;
- (iii) The Admiralty.

The head of each section was responsible and had direct access to himself.

Tirpitz became Chief of Staff of " The Executive Command " in 1892. In 1897, however, after serving one year at sea as an Admiral, he became Secretary of State for their Navy, i.e., Head of the German Admiralty. By 1900, he had broken up and reorganized his old department, " The Executive Command," and the new organization consisted of :—

- (i) The Emperor's Cabinet ;
- (ii) The Admiralty ;
- (iii) The Naval Staff.

The head of each of these being responsible, and having direct access to the Kaiser.

This arrangement compares very badly with that of the British Admiralty, where the Chief of the Naval Staff is also First Sea Lord, but kept free of routine work and of the less important administrative work.

The Kaiser held a position as regards his Navy analagous to that of our First Sea Lord—a position which he was quite unsuited to hold from lack of necessary knowledge and experience afloat. The dominating personality of Tirpitz, and the position he occupied as the real creator of the modern German Navy, apparently enabled him to overshadow their Naval Staff and to continue to decide, for instance, on the numbers of and types of vessels and their armaments which they built, without reference to the Naval Staff.

It is quite clear that, although he claims in his book to have known old Field Marshal Moltke, he did not understand that great man's system and teaching. That is a most important point to note, and is an example of the danger of allowing the material departments to take complete control in peace time, as so frequently occurs, for the reason that the material departments have something to show for their labours in peace time, whereas the result of the labours of the War Staff can never be fully apparent until war comes.

But, when all is said, the success of any organization eventually depends on the abilities and qualities of those who work it. So we must remember that while professional knowledge and historical knowledge of war are indispensable, yet, when it comes to action, the predominating



quality is the clear cool head and the power of taking in a situation with judgment and balance. That predominating quality is not acquired at the desk, but at sea or in the field. It is developed by real responsibility, that is, by the obligation to decide important practical issues with the knowledge that if one fails one will be called to account. It is the leader, trained in such responsibility and living in the midst of it, who alone can command in war and whose advice should carry most weight in Service affairs.

We read that : " Drake took counsel of many and then did what he thought was right." To my mind that is the key, and should be the attitude of every Commander-in-Chief. Know as much as you can yourself without becoming a pedant and losing your professional executive qualities. Have a clever and well read staff who have been carefully taught and trained with the ideal of a common doctrine of war. Consult as necessary with your subordinate leaders and consider the appreciations of your staff as propounded by the Chief of Staff. Then make your own decisions.

" Let one alone command, for several minds weaken an Army."

This maxim of Machiavelli, writing in the XVIth century is truer to-day than ever and applies equally to sea, land and air warfare.

## THE SENIOR OFFICERS' SCHOOL

### THE CASE FOR A COLLEGE OF TACTICS

By BREVET LIEUTENANT-COLONEL E. W. BRIGHTEN, C.M.G., D.S.O., T.D.

The Bedfordshire and Hertfordshire Regiment  
(late Instructor, Senior Officers' School, India).

IT is sometimes stated that a Senior Officers' School does not justify its existence, that it usurps the functions of a Commanding Officer, and that its suppression would not injure the Army. It may not be out of place therefore to examine the subject in the light of the impressions formed during a four-year tenure of office at the Senior Officers' School in India, during which period 100 officers of the British Service and 203 officers of the Indian Army passed through the establishment.

The Senior Officers' School is a child of the Great War; previously no such institution existed. As conducted during the war it was a great success; consequently it has continued to exist. Let us see, therefore, what were the conditions which gave rise to the necessity for such an institution during the Great War. The Army was bankrupt of officers fit to command and lead battalions or equivalent units, and it became necessary to create a kind of incubator where they could be taught, at least, the barest elements of a common tactical doctrine, so that, carefully shepherded by Brigade Commanders, they could take their units into action and administer them when out of the line. Moreover, the officers who passed through the School as students were, with very few exceptions, quite young (most of them in the twenties), full of enthusiasm, while the immediate certainty of a command lay before those who reached the necessary standard and gained a report which would justify their selection for such an appointment.

Let us now turn to the post-war officers who are required to pass through the School. All of them are of mature age (in the forties), have been in the Army all their lives, and very naturally their minds are formed and are less receptive of new teaching than are those of younger men. Is it the time to send a man to school to learn his profession after he has been practising it for twenty years?

It is true that one of the objects of the Senior Officers' School (as laid down in King's Regulations, para. 815), is to report on officers as

regards their ability to conduct the training and administration of a battalion or equivalent unit. But this could be done in other ways and is insufficient of itself to justify the financial expenditure. Therefore it is to the other objects we must turn. These are set out under three headings, but for our purpose we may summarize them as the dissemination and inculcation of the official tactical doctrine, coupled with the higher tactical and administrative training of senior regimental officers.

A common tactical doctrine properly disseminated throughout the Army is of supreme value. Consequently a school that teaches such a doctrine, is economic, and can be justified financially because it means that our Army will be able to fulfil its functions with the least expenditure of men, material and time.

At first sight it may appear that the proper way to inculcate and disseminate that doctrine is to begin at the top, and to teach it to the senior officers who can disseminate it throughout the Army. In theory this may be correct ; but what is the result in practice ?

A Senior Officers' School was established at Woking in 1920 (moved later to Sheerness), and another at Belgaum, India, early in 1921. Nevertheless the C.I.G.S. stated recently that " half of the officers who come there (i.e., to Sheerness) do not know much about their profession or know very little about it."<sup>1</sup>

Those who have worked at the Schools well know that this statement is true. Can it be said that a senior officer understands his profession when he is incapable of giving verbal orders that will ensure his unit attacking the proper objective and exhibits ignorance of the width and length of the beaten zone of a machine gun, or when he expresses surprise at being expected to know details of battle administration, e.g., the amount, location, and method of carriage of his ammunition, tools, stretchers, etc. The instructional staff know well that the C.I.G.S. is generous in his statement. Three-quarters would be nearer the mark in respect of those who do not know the beaten zone of a machine gun. The reason for stressing this one small point will be apparent, when we remember how potent a factor, in modern tactics, is the machine gun, looming large in the formation of our common tactical doctrine.

To paraphrase a well-known saying, officers who attend the Senior Officers' School divide themselves into certain classes :

- (1) *Those who know not and know not that they know not.*

This is a large class, as we have already seen. But is it their own fault ? How can we expect a man of mature age, after twenty years

<sup>1</sup>Remarks of the C.I.G.S. after Gen. Knox's Lecture reported in R.A. Journal, April, 1927.

in his profession, to think otherwise? Hitherto he has rubbed along very well, no one has pointed out to him his shortcomings, and it is human nature that he should be self-satisfied in such conditions.

(2) *Those who know not and know that they know not.*

This is a small class. They want to learn, but no one teaches them and they often voice the question at the School, "why has that not been explained to me in this way before? I see it now quite clearly." It is small comfort to such to tell them that the School has been teaching this doctrine for eight years, that senior officers of their own regiments have passed through the School and ought to hand on the doctrine.

(3) *Those who know a little and think they have nothing more to know.*

Fortunately these are a small class. Their deficiency is due to similar factors to those that influence the first class. Nevertheless they are a serious hindrance to real progress because men who know do, of course, command attention and respect from those who do not, and thus encourage the first class in the belief that they also have little to learn.

(4) *Those who know and want to know more.*

This class unfortunately is all too small. It is the life-blood of the School. The most illuminating expression of opinion which comes from them is, "what a pity that this has not all been explained to me in such a way before." They feel and know the opportunities that have been lost to them because their tactical thought has not been directed on the lines of a sound common doctrine.

The above classes constitute the material on which the Senior Officers' School has to work, and explains why the teaching of the School is not being disseminated throughout the Army. The failure to do so has recently received official notice in India.

The strictures expressed are obviously justified for, if the teaching of eight years had been handed on, surely its influence would be apparent by now among more of the officers coming up to the School?

One reason for this failure may be that the School has not been placed on a firm foundation; its status or rank perhaps is insufficient. If it had a Major-General as Commandant, its dicta might carry more weight. Again, it may be that the shadow of the axe hanging over the School has depreciated its doctrine in the eyes of those who do not know better. In this connection it is interesting to note how, for years, the Senior Officers' School, India, has been teaching the need for co-operation of all arms, yet there is repeated evidence to show that this doctrine is far from being generally understood and that the teaching of the School is not yet disseminated throughout the Army.

A particular aspect of this subject to which much attention has been devoted lately is the co-operation of artillery and infantry, both in attack and defence. At present the Gunner often pulls one way and the Infantryman another ; in reality they are both on the same side and want to do their best for the team, but nevertheless they frequently fail to see eye to eye, as regards the application of the principles of our regulations. So great was the divergence of opinion, that, early in 1927, a committee was appointed to examine the subject in greater detail.

One of the best ways to arrive at a conclusion in matters of this kind is to try them out by numerous and varied tactical exercises, and the Senior Officers' School in India has been giving particular attention to this method for some years. It may be concluded that a satisfactory solution has been arrived at by reason of the fact that all Gunner and Infantry officers attending the School have expressed their entire agreement with the method of application taught and have found the proposals of the School eminently practical.

If it be conceded that there is sound doctrine in what this School has taught, then it is an argument in favour of the retention of such an institution of tactical thought. But, as we have seen, in its present form it is not entirely satisfactory ; consequently, it is for consideration whether we ought not to have what for the sake of a better name at the moment we may call a School of Tactics.

It may be said at once that this is the province of the Staff College. But it is suggested that that institution has not sufficient time to examine and try out problems of minor tactics. We may try as we will to class all tactics under one heading ; but when we get down to practical application it cannot be denied that there is as sharp a distinction between the major tactics of formations and the minor tactics of units as there is between strategy and tactics. Whatever may be our attainments in major tactics, it is certain that in minor tactics we fail. No text book ever written, or to be produced in the future, can hope to deal in sufficient detail with the problems of a Company or Platoon Commander or even with those to be faced by the Battalion Commander.

The factors underlying the consideration and practical application of these problems are too diverse and numerous. Wherever the present writer went on his tours of Indian Stations he found a great, keen, body of officers, mostly of the rank of Captain, who had completed their preliminary military education, and yet felt deficient in the leadership of their tactical units without knowing where to look for guidance. Their own senior officers, not always unanimous, would tell them one thing ; senior officers of other regiments would tell them another ; and sometimes the mist was thickened because they found their Brigadier



was not in accord with either. Finally, the fog must become impenetrable if they discover variance in treatment of certain minor tactical problems by the Schools belonging to the different branches of the Service.

The advent of mechanization is one more urgent plea in favour of an institution to teach a common application of our doctrine of war.

Those who fought in the Great War know the array of unsuccessful battles with the accompanying loss of life and material, due to the indifferent tactical handling of units from battalions downwards. That this will happen again is certain when we reflect on our deficiencies in the tactical handling of sub-units of all arms and in the co-operation between such sub-units of all arms. Many officers do not realize these deficiencies although constantly emphasized in our Training Reports.

Since such deficiencies do exist, it becomes self-evident that our methods must be wrong in some respect. There is so much keenness on all sides, that it cannot be the fault of the individual alone. And therefore it is now offered for consideration that we should revise our methods and give serious thought to minor tactics, to their inculcation and dissemination throughout the Army on different lines. This means the establishment of a new College (the word school seems out of place when dealing with higher training). To provide the new in these days of financial stringency, the old must go, and therefore it is suggested that we give up the attempt to instil knowledge in those who are past the time of life when fresh ideas are readily assimilated, and concentrate, instead, on the training of officers below the rank of major.

In concrete form the proposals for consideration are as follows :

- (1) The Senior Officers' School to be abolished ;
- (2) A new institution to be founded called by some such name as the College of Tactics or the College of Training for Command ;
- (3) This College to rank second to the Staff College, to work in close liaison with that institution, and to have for Commandant an officer of the rank of major-general ;
- (4) All officers of combatant branches of the Service to pass by examination into the College, and out again with the qualification for promotion to major, this qualification taking the place of subjects (c) and (d) for promotion ;
- (5) Three (or perhaps four) months will be sufficient duration for courses, having regard to the entrance qualification which will ensure a certain standard being reached beforehand. Such qualification will automatically force the dissemination of the doctrine of the College throughout the junior ranks.

It is realized that the number of officers to pass through will be greater than that hitherto dealt with by the Senior Officers' School. This means a larger staff of instructors, and together with the higher rank of the Commandant involves an increase of expenditure, but it is suggested the overhead charges of such an establishment will not exceed materially those at present attributable to the Senior Officers' School.

There are 4,971 Captains in the Army, including Indian Army, but excluding R.A.M.C., R.A.O.C., R.A.V.C., and other services who would not be required to attend the Colleges.<sup>1</sup> Divide this figure by fourteen (assumed for the purpose of this calculation to be the normal number of years before a Captain can expect promotion to Major), when we arrive at 355 officers to attend the proposed Colleges each year. It is fair to deduct the odd fifty-five for casualties and contingencies, which gives us a round figure of 300 per year, i.e., 100 per course; 60 at the College in England and 40 at that in India.

So far as the establishment in India is concerned there would be little additional expense involved. The buildings are already adequate for the suggested number. Let us assume that one Instructor is required to eight student officers, because that has been found to be the maximum number to whom tactical instruction can be imparted by one man, then the only additional expense would be an increase of two Instructors over and above the present establishment of the Senior Officers' School. As a matter of fact it is really only one, because the School is working temporarily for a reduced number of students.

With regard to the College in England, eight Instructors would be required, which, it will be observed, is also an increase of one over the present establishment.

The foregoing figures are rough and it is not claimed that they are actuarially correct, but sufficient, it is suggested, has been shown to prove that the proposals do not entail any material increase of expenditure. Neither is it true economy to spoil the ship for a ha'porth of tar, when, as a return, the results to be looked for in efficiency for war (or for security against attack) are incalculable.

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<sup>1</sup> Half-Yearly Army List, July, 1927.

## THE SCHNEIDER CUP RACE, 1927

BY COMMANDER A. W. S. AGAR, V.C., D.S.O., R.N.

THE outstanding impressions left on the mind of the writer who witnessed this contest from one of the best view-points were the enthusiasm displayed by the Italian nation as a whole in the belief that their country was certain to win, and their stoical acceptance of a very crushing defeat.

A detailed account of the race would be out of place, since it has already been given in the Press. There were, however, several interesting features when comparing the teams, engines and machines as representing the flying services of two different nations as well as the attitude of the nation which, in accordance with the rules laid down, had to organize and conduct the race.

The Italians made every effort to arouse national interest. Special trains were run to Venice from all parts of the country, with a 50 per cent. reduction of fares, and special facilities were given to all bodies who were in any way connected with aviation or aerial transport. Profiteering of any sort in the way of stands and seating accommodation, or overcharging was immediately checked (though this did not apply to foreigners). Special trains conveying workmen from the Fiat works, where the Italian engines were made, and from the aircraft factories where the machines were made and assembled, were run free of cost to sustain their interest. H.M. The Queen of Italy, with the Crown Prince and his cousin, the Duke of Spalati, represented the interest of the Royal family, the Duke being in command of the destroyer "Sella." In the absence of Signor Mussolini, his deputy represented Fascismo of which a general mobilisation had been ordered. In addition, there were present nearly all the prominent members of the Government, Navy, Army and Air Force.

Bad weather prevented the race being held on the day scheduled, but, in view of the result, this was really a blessing in disguise, since there were 75,000 less people to be disappointed.

The result came as a complete surprise and shock to everyone except the handful of British spectators and those intimately connected with the British preparations for the race. One could not fail to notice the small amount of applause that greeted the British machines as they

crossed the starting and finishing line at the end of each circuit, until the end of the race, when the winning British machine finally crossed the finishing line after all the Italian machines had retired. Perhaps it was as well that rain came down in torrents almost immediately afterwards.

Britain's win or Italy's failure may be attributable to many reasons of a technical nature, but speaking afterwards to several well-informed Italians the writer was told that they were so certain of success that they neglected their earlier preparations, more particularly with their engines.

This certainly could not be said of their final preparations for the race, as it seemed that no detail had been overlooked which might have assisted their machines. Their pilots were certainly the best that Italy could produce, men whose names are household words in Italy, such as Bernardi, who won the Trophy last year, and Ferranin, the pilot of the Rome-Tokyo flight. There was, however, a distinct difference in style between the flying of the two nations. The Italians took the sharp bend round the pylons (an angle of about  $300^{\circ}$ ) with a very sharp high banked turn, sometimes heeling over beyond the perpendicular, thus gaining height and losing speed, whereas the British pilots without exception rounded the pylons on an even turn and quite low, with a small loss of speed but a slightly larger turning circle. This latter style proved much better than the former.

The writer would like to point out the value of the moral effect on a team setting out for a contest of this nature, which requires months of training, both physical and mental, that can be produced by a knowledge of government support. This was afforded especially by the Navy having the aircraft carrier "Eagle" on the spot with four destroyers in attendance. Apart from this practical help the moral effect of seeing their own men standing by them was most encouraging, as the pilots all unanimously acknowledged. One British destroyer, placed close to one of the pylons, actually succeeded in rescuing the pilot of one of the Italian machines who was obliged to make a forced landing down wind on the open sea.

Government support was also afforded by the purchase of the machines and engines from private firms according to these firms' own designs. The result, of course, was a very valuable trade asset for the firms, more especially at a time when the eyes of the world are on all the pioneers who are endeavouring to set up ocean travel routes by air.

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## THE GERMAN OFFENSIVES OF 1918

### THE RECORD OF GENERAL VON KUHLMANN

"ENTSTEHUNG, DURCHFÜHRUNG UND ZUSAMMENBRUCH DER  
OFFENSIVE VON 1918" (DEUTSCHE VERLAGSGESELLSCHAFT  
FÜR POLITIK UND GESCHICHTE, BERLIN).

*By General der Infanterie a. D. von Kuhlmann.*

### THE GERMAN PARLIAMENTARY COMMITTEE OF ENQUIRY

**I**N April, 1919, the Reichstag appointed a Parliamentary Committee to enquire into the loss of the war. It was directed to report the names of any persons who appeared to have been in any way responsible for bringing about, prolonging or losing the war. The Monarchist and Military Party, however, soon began to regain power, with the result that the scope of the enquiry was gradually reduced and the Committee was instructed not to trouble about looking for scapegoats, but merely to ascertain facts. The very inconvenient enquiry into the origin of the war was entirely dropped, as were other awkward subjects which the Committee had proposed to examine, such as: the treatment of Belgium, the shooting of civilians, the deliberate destruction of towns, villages and buildings, the compulsory removal of civilians, violations of the Hague Conventions, the relation of officers and men, and the failure to seize opportunities to make peace.

Eventually only one of the original four Sub-Committees appears to have survived, and it was left with five questions to investigate:

- (1) The origin, execution and collapse of the offensive of 1918;
- (2) How far the defeats in 1918 were due to disorders in the Army;
- (3) The reaction of disorder in the Homeland on the Army and Navy;
- (4) How far the internal political situation affected the resisting power of the Army and the Homeland;
- (5) How far revolutionary propaganda was responsible for the collapse of the nation.

The Sub-Committee proceeded to call in experts to do its work for it. Of the results of the enquiry into the last four questions, nothing



has as yet been published. But as regards Question (1), the Sub-Committee issued a report. After rejecting a draft prepared by its reporter, Dr. Deermann, which put the blame on General Ludendorff, it whitewashed everybody. It found that the situation in 1918 required an offensive, that the Army was fit, that all possible troops were employed, and that there was plenty of war material. It decided, however, that there were not sufficient back positions prepared, but then, no one had thought them necessary; also that there were not enough tanks, but to build them something would have to have been scrapped, possibly aeroplanes. The Army did its utmost. The demand for the armistice was not due to defeat in the field, but to fear of defeat, and, finally, "the Imperial Government is free of any guilt for the accident of 1918."

The Sub-Committee published portions of the reports of the four experts it employed to arrive at these satisfactory conclusions. They were drawn up by Colonel Schwertfeger, a military writer, who dealt with the question of military-political responsibility; by Professor Delbrück, the historian, who considered the offensive as a whole; by Colonel Wetzell, Ludendorff's strategist, who produced a statement of the course of events; and by General von Kuhl, who was first Chief of the Staff of General von Kluck's Army, and then of Crown Prince Rupprecht's Group of Armies, two Armies of which, with one of the German Crown Prince's Group, took part in the offensive of March, 1918.

#### GENERAL VON KUHLMAN'S REPORT TO THE COMMITTEE

General von Kuhl has now published his report in full in book form. It is a model military document of 220 pages, so succinct that it really does not admit of much further condensation, and only the chief points can be touched on here. The first part is a military statistical enquiry into whether the men and material assembled in March, 1918, were sufficient for the great offensive, and whether it would have been possible to concentrate more men on the Western Front by combing them out from elsewhere. He first investigates the comparative strengths of the belligerents and finds that the Germans had superiority of numbers in France, but hardly sufficient for a decisive success. They had 192 divisions in March and 204 in May, against the 178 and 188 Allied divisions, although the actual number of men was not quite in the same proportion.

General von Kuhl next examines in detail each of the minor theatres of war, Rumania, Ukraine, Finland, Turkey, Macedonia and Caucasus to discover whether men could have been spared from them for France. He comes to the general conclusion that it was necessary to keep men

in Russia in spite of the Armistice in order to ensure the collection of supplies, that every possible man had been combed out. Further, he finds that the recruit contingent had been anticipated, lads of 18 of the 1899 class having been called up, and that no more men could be withdrawn from munitions without interference with the work; in fact, more munition workers were wanted and 120,000 had been recalled from the colours in the first quarter of 1918. He considers that Austro-Hungary should have been called on to furnish a larger contingent—only two divisions were sent to France in May and two more in September—but “openly the German Supreme Command placed no great value at first in Austro-Hungarian divisions taking part in the fighting in the West, perhaps not without good reason.”

As regards horses, the situation was the same as with men, every available one had been sent to France. As regards munitions, there were plenty: “want of guns, rifles, machine guns, trench mortars and ammunition never affected the operations in 1918.” The Army was short only of petrol, rubber and tanks.

The great point in the situation was that the German rear in the East was now, for the first time, safe from attack. The U-Boats had failed to give any hope of a decisive success, so it was useless to stand on the defensive and wait for them to finish the war; the attitude of Germany's Allies was doubtful; American help to the Entente was on its way; the state both of the Army and of the Homeland demanded that the end of the war should not be long postponed. Everything pointed to an offensive as the only solution and the Army was prepared for it. “If the offensive failed then the war was lost.”

#### THE PRELIMINARIES OF THE OFFENSIVE OF MARCH, 1918

The second part of the book is an extraordinary good military study and appreciation of the preliminaries of the great offensive and its execution, and of the German strategy during the remainder of the campaign. It is far clearer, more detailed and more complete than Ludendorff's sketch in his “War Memories.”

Considerable more thought was given to the choice of the place of attack than has hitherto been made public. Italy offered attractions, but with the Italian Army established on the Piave conditions were very different to those at Caporetto in October, 1917; the weather would be unfavourable early in the year, and whilst strong forces were employed in Italy, the French and British might attack in France. In spite of Austrian desires, Italy was ruled out.

The British seemed to offer the easiest front to attack. They had borne the brunt of the fighting in 1917 and it was doubtful whether

their losses had been replaced ; part of this front was held by Portuguese ; there were very few reserves behind the right.

The French on the other hand had rested and recovered after the disaster of the Nivelle offensive, and the two small attacks they had made in 1917 on 20th August at Verdun, and 22nd October at Malmaison, showed that they were again fit to undertake active operations.

Early in November, 1917, various proposals were put forward ; Crown Prince Rupprecht commanding the Group of Armies on the right (West) argued for an attack against the British, in Flanders ; the Crown Prince of Prussia, commanding the Group of Armies in the centre, for an attack against the French, his Chief of the Staff, General von der Schulenberg, suggesting that it should be from two sides against Verdun. Lieut.-Colonel Wetzell, Chief of Ludendorff's Operation Section of the General Staff, supported Schulenberg's view, holding that the French would never again recover from a really heavy blow, and that after experiencing one, "the French-American offensive to be expected in the next spring, would be out of the question, and the whole Army could if necessary be turned against the British."

On the 11th November, 1917, therefore, as is well known, a conference was held at Mons at which Ludendorff, Schulenberg, and Kuhl himself, as Rupprecht's Chief of the Staff, were present. The First Quarter Master General decided "the British must be beaten." He was however against Kuhl's proposal to attack towards Hazebrouck ("St. George" attack), for in March ground and weather were against operations in Flanders. There would first have to be a diversion against the French to gain time, and for this there were neither the men nor munitions. [Yet we shall see he made diversions in May, June and July.] The available reserves, about thirty-five divisions and 1,000 heavy guns were only enough for one offensive. [Yet he made five.] He favoured an attack further south near St. Quentin. "After the Somme line, Peronne-Ham, had been gained the left could be rested on it, and the attack carried north-westwards so as to roll up the British front."

Nothing however was definitely settled. On the 20th November, Kuhl returned to the attack on paper, definitely proposing an offensive towards Estaires-Armentières against the flank and rear of British in and west of the Ypres Salient. He argued—his appreciation is given nearly in full—that the St. Quentin attack would require considerably more troops than his plan did, and would lead into the area devastated in 1917.

#### LIEUTENANT-COLONEL WETZELL'S APPRECIATION.

A more important contribution to the argument was made by Lieutenant-Colonel Wetzell. His lengthy memorandum, dated 12th

December, five-and-a half-pages of small print is given *in extenso*. He still held that the Verdun attack would be "the most decisive." The prospects of the Hazebrouck attack he thought were "favourable." Of the attempt of a "break-through in grand style" at St. Quentin he had "grave doubts." The difficulties of a break-through were essentially so great, that a decisive victory could scarcely be attained by one attack at one place. If the British were to be beaten, it must be done by a combination of successive attacks at different places. The offensive should be divided into two acts. The first act, an attack at St. Quentin, should be designed to draw the British reserves away from Flanders. It should not be carried beyond a fixed line and must then be broken off. About a fortnight after the St. Quentin offensive—giving time to shift guns and troops—the enemy front in Flanders, now drained of reserves should be attacked towards Hazebrouck, in order to shatter the whole British front and roll it up northwards. For once Ludendorff did not accept his strategist's scheme; but it nevertheless had its influence on him; for after carrying the St. Quentin attack too far, three weeks later he did attack towards Hazebrouck.

#### LUDENDORFF'S DECISION.

After much further discussion Ludendorff visited the whole front with the two Chiefs of Staff of the Crown Princes, and conferred with the Commanders of the Fourth, Sixth, Second, Eighteenth and Seventh Armies. He then, on the 21st January, 1918, decided definitely against the "St. George" (Hazebrouck) Scheme as too dependent on the weather, and against an attack "Mars" (Arras) as too difficult. The attack, "Michael," on either side of St. Quentin, was to be carried out, with "Mars" later to widen the front of attack. A new Seventeenth Army was to be interpolated between the Sixth and Second Armies; the Second (Marwitz) and Seventeenth (Otto von Bülow) were to make the decisive attack, and the Eighteenth (Hutier) was to form their left flank guard, going forward for the purpose to the line of the Somme, between Peronne and Ham, and to Crozat Canal. To the Seventeenth Army were allotted 19 divisions; to the Second Army 20; to the Eighteenth Army 24.

The Supreme Command held three divisions in reserve. The Eighteenth Army was transferred from Rupprecht's group to Crown Prince Wilhelm's, so that the Supreme Command would retain its influence.

Everything depended on surprise, and every means was taken to ensure it. No change was made in the troops holding the front, and they were not told of the offensive. All detrainments of the assault divisions were made well back on a wide front, and all large movements



carried out by night. Special "safety officers" were appointed with staffs to watch from the air and by visiting the front whether the preparations were observable. The work of preparation was immense. Nevertheless "the army that stood ready for the offensive in March, 1918, was certainly not that of 1914—the visible falling off of the army, the wretched state of the reinforcement question, the limited mobility, the lack of tanks and petrol and lubricating oils had not been overcome—but every man was convinced that the decisive hour had come and the Fatherland relied on him."

#### THE COURSE OF THE OFFENSIVE OF MARCH, 1918.

The course of the German March offensive is well known: the Seventeenth Army encountered such obstinate resistance that it made little progress; the Second Army hardly did better; but in the thick fog of the 21st, the Eighteenth Army (Hutier), the flank guard, easily pushed back the widely spread out British Fifth Army (Gough). On the afternoon of the 23rd "the Supreme Command decided, to the complete detriment of strategy, to make a complete change in its plans, in order to take advantage of the tactical advantage that had been gained by Hutier. The orders it issued ran: 'The objective of the operations is now to separate the British and French by a rapid advance on both sides of the Somme. Seventeenth and Sixth Armies and later the Fourth will attack the British north of the Somme, in order to drive them into the sea. . . . South of the Somme the operation is to be carried out offensively against the French by a wheel into the line Amiens-Montdidier-Noyon, and then an advance southwestward. In consequence, the Second Army will push forward on both sides of the Somme in the main direction of Amiens, and will keep in close touch with the Eighteenth.' " The Eighteenth Army was then to abandon its flank guard role, cross the Somme and Crozat Canal and attack the advancing French.

"Thus the directions of attack of the Armies ran like rays North-West, West and South-West. . . . The orders of the 26th March brought about a further extension of the already widely-strained frame of the operations." The scope of the attack was widened: the Sixth Army, on the right, was directed on Boulogne, the Seventeenth on St. Pol, the Second on the Ancre, the Eighteenth on Compiègne, and the Seventh was ordered to cross the Aisne. "The offensive power of the Germans was no longer sufficient for all these tasks, as was soon proved." The first plan of smashing the British had been abandoned; and the second, the separation of the French and British had been forgotten.

"On the 30th March the attack came to a stop everywhere."



Instead now of drawing off the bulk of his forces as quickly as possible to attack towards Hazebrouck, as his best advisers advocated, Ludendorff persisted in useless assaults, heavy in casualties. General von Kuhl observes :—" The strong will of the Supreme Command would not let go of the last objective ; for often in war even when all hope has nearly been given up, a firm attitude in the last moment of a battle has suddenly brought success." But in this case, although a " tactical victory " is claimed :—" The end of the fight left our troops in very unfavourable positions which led to extraordinary high daily wastage," and " strategically the grand attack had not succeeded." Kuhl concludes that after the first success it would have been wiser to have taken divisions from the Eighteenth Army, the flank guard whose advance could not be decisive, and transferred them to the Seventeenth, and that at least one diversion (false) attack should have been attempted in Flanders.

#### THE LYS OFFENSIVE OF APRIL, 1918.

Ludendorff now turned to the Hazebrouck attack (St. George), but as a separate operation, not in continuation of and as the second act of the "Michael" attack. Owing to lack of troops and munitions many changes had to be made in the original project of Crown Prince Rupprecht, and the imposing " St. George " was cut down to the modest " Georgette." The heavy artillery and specialist units, available directly the Michael attack was under way, were not at once sent North ; the railways were overburdened with the mere supply of such huge numbers, and units were despatched as best they could be, not in the order required, and their re-grouping caused delays. Further time was consumed in accumulating dumps of sixteen days' supplies and four days' reserve of ammunition, which was judged to be the minimum on which an attack could be begun. Finally, the attack on the 9th April was made, in the Sixth Army with only seventeen divisions, including eleven sent up by the Supreme Command, and in the Fourth Army with five, drawn from its own resources, with extra artillery amounting to 94 field batteries, 130 heavy batteries, and seven super-heavy batteries, besides extra trench mortar, engineer, signal, flying, and labour units, a kind of "siege train" transferred from one attack to another. By the 19th April, Crown Prince Rupprecht reported that he could not get on without a further formal artillery preparation, as the Allied defence had stiffened. Besides this, supply failed, only half of the required rations and two-thirds of the ammunition were reaching the Army. He asked that he might break off the battle, and Ludendorff concurred. [The captured German records show that it was Ludendorff who lost heart first.] " The second grand attack had not brought the hoped for decision."

## THE AISNE OFFENSIVE OF MAY, 1918.

The question now was what to do next. Ludendorff was quite clear about it, and retained the same opinion throughout the remaining German offensives. It was to renew the attack in Flanders against the British. But this could not be done until the Allied reserves had been destroyed or attracted elsewhere. On the 29th and 30th April there were again conferences between Ludendorff, Kuhl and Schulenberg, and a decision was arrived at to make an attack against the Chemin des Dames in the Crown Prince of Prussia's sector; not however for the purpose of breaking through. It was hoped to find a weak spot and by attack to compel the French to send reserves there. In the operation order of the Supreme Command dated the 1st May, it was stated:—

"The object of this attack is to loosen the present united Allied front opposed to Crown Prince Rupprecht's Group of Armies and to create thereby a renewed possibility of a successful continuance of the offensive against the British."

## PROJECTS AGAINST THE BRITISH.

Before the Aisne offensive had however been begun, Ludendorff set about to considering where he would attack the British after its successful close. It was a question of a "New Michael" from the line Somme-Arras towards Doullens, or a "New George," in the Hazebrouck country. Again Ludendorff and Kuhl disagreed. We need not follow their arguments. Ludendorff for once gave way and on 5th May orders were given to prepare "New George" as first string and "New Michael" as second, and the names of the attacks were altered to "Hagen" and "Wilhelm." The first great objective of "Hagen" was fixed as the "Line Boesinghe-Poperinghe-Godewaersvelde-Borre (east of Hazebrouck)," and then "Ypres-Reninghelst-Mont Noir-Fletre-Strazeele." There is a long letter of Ludendorff's to Kuhl, dated 15th May, summing-up the conditions of attack, which itself may be summarized in the last words, "We have plenty of munitions, but men are scarce."

After the heavy German casualties the renewed attack against the British could not be carried out in the strength, breadth and depth that were desirable. The number of fresh divisions was diminishing; the position divisions kept in the line were tiring; the fighting value of the artillery, trench mortar units and fliers of the "siege train" was suffering from constant reorganization and transfer from one offensive to another. The reinforcement situation was bad and demanded that heavy losses must be avoided. Probably instead of wasting a month over the Aisne preparations it would have been better to have attacked against Amiens without loss of time on diversions, thinks Kuhl.

## AISNE OFFENSIVE.

Although the orders for the Aisne offensive were sent to the Crown Prince on the 17th April, the preparation for it took until the 27th May, and meantime, on account of lack of heavy guns, its scope had to be reduced from a simultaneous attack of the Seventh, First and Eighteenth Armies and divided into two parts, the Seventeenth and First moving first, and then the Eighteenth joining in.

Thirty divisions took part in the opening of the attack, of which twenty-six had participated in the previous attacks. Completely successful in breaking the Allied front, it was stopped on the 5th June, having already "fatally" gone too far. Designed as a diversion "it had become a great battle." Like Hutier's tactical victory over Gough, it only brought the defeat of Germany nearer.

## THE MATZ OFFENSIVE OF JUNE, 1918.

The Eighteenth Army to the west was nevertheless ordered to make its attack, but as heavy artillery had to be transferred to it, it could not start until the 9th June and then struck, at Matz, a determined enemy, and had to be broken off. Kuhl thinks that it would have been better to have gone on with the Aisne offensive, or, if not, to have definitely stopped all the offensives and gone back to the positions held on the 21st March; for the great salients in the front—all that had been gained—were merely a source of weakness and the Armies should not have been left in them.

Ludendorff however elected to continue the offensive; but before the long-delayed attack against the British ("Hagen") was undertaken, he proposed to make two more diversions against the French.

## THE MARNE-RHEIMS OFFENSIVE OF JULY, 1918.

On the 14th June he ordered the attacks on the Marne front and east of Rheims, under the name of "Marne Guard" and "Rheims"; they were to be begun about the 10th July, and "Hagen" against the British about the 20th July. On the 22nd June Ludendorff ordered preparations to be made for another attack called "Elector" to be carried out by the Seventh, Ninth, Eighteenth and Second Armies in the direction of Paris and Amiens. It was to take place after "Marne Guard" and "Hagen," but what forces would actually be available, and whether it would be aimed at Amiens or Paris, was not settled.

The second battle of the Marne was like the Aisne attack, simply a "diversion" at a supposed weak spot to attract French reserves, "because the enemy in Flanders was still so strong that the German Army could not attack there in July." Kuhl suggests that the Germans

dare not attack at a far away point like Flanders, whilst they would be open to attack themselves on the Marne in an untenable position.

On the 15th July, forty-seven divisions—most of which had participated in the Aisne offensive—attacked on either side of Rheims. "For the first time the German attack failed tactically . . . it struck not a weak place as it was hoped, but a strong and ready foe." In spite of this, according to plan, the railway transport from the Rheims front of the "siege train" of artillery, trench mortars and aeroplanes required for the preliminary bombardment in the "Hagen" attack was begun on the 16th. The Marne offensive was stopped and the troops withdrawn across the river.

Then on the 18th July, Mangin attacked against the Soissons Salient from the wooded region of Villers-Cotterets. "The whole of the Marne Salient conquered in May had to be evacuated, a severe reverse had undeniably occurred. The troops had fought splendidly, the retreat was carried out in good order. But the losses were heavy, many divisions were used up. . . . The "Hagen" offensive had to be abandoned. The turning-point in the year 1918 had arrived." One of the excuses offered is that the Germans expected the attack of the 18th on the 14th, and as it did not take place were not prepared. On the 15th the Ninth Army reported that "a counter-attack is no longer probable," and on the 17th, a message from the Crown Prince's Group "showed that it did not take an attack into account."

Although Kuhl admits that considerable objections may be made against the July attacks, he defends them because "they might have succeeded," and then it would have been possible to carry out the "Hagen" attack against the British.

Summing up the German strategy in March-July, 1918, he insists that an offensive was "imperative and justified." "Glorious victories were achieved. Great things were accomplished. Many a time we were within an inch of final success. But that inch always failed . . . It is doubtful even if all the various diversion attacks had been successful, whether, after the casualties incurred in them, we should have been strong enough for a great decisive blow in Flanders."



## A BATTLESHIP ADVENTURE THE VOYAGE OF THE "KASUGA"

By LIEUTENANT-COMMANDER H. H. PAYNTER, R.N.  
(Emergency List).

*The "Kasuga" and the "Nishin" were two small battleships of about 10,000 tons which were built by Messrs. Ansaldo, of Genoa, for the Argentine. Just before the outbreak of the Russo-Japanese War they were acquired by Japan. It was essential that they should reach the far East as soon as possible, and, therefore, instead of sending Japanese crews to fetch them, an English firm undertook to deliver them. The Captains were both Naval Officers on the Emergency List. Commander J. F. Lea commanded the "Nishin" and Lieutenant-Commander H. H. Paynter the "Kasuga."*

"WILL you take command of a battleship going to the Far East," so ran a telegram, which I received at my Wiltshire home one day early in January, 1904.

Since leaving the Navy I had followed various callings, and, incidentally had been connected with the delivery of several warships abroad, so the telegram was not a very great surprise. I wired back "Certainly," and took the next train for London. There I met an old friend Commander J. F. Lea, and Captain Lloyd representing Sir W. G. Armstrong, Whitworth and Company.

The position was quickly explained to us. There were two battleships at Genoa: we were each to command one of them and get them out to Japan as quickly as possible. Terms were arranged, and in a very short time Lea and I found ourselves with agreements in our pockets, financial arrangements made, and instructions to get on with the job. We were told that we should find the ships provisioned and with a full complement of Italian engineers and firemen, but that the deck officers and crew were to be English.

As time was all important, we decided that one of us should go at once to Italy, whilst the other should stay in London, engage the officers and crews for both ships, and take them to Genoa, leaving London in as near forty-eight hours time as possible. The hazard of a coin decided that Lea should go to Genoa and, accordingly, I remained. Taking a sitting room at the Grand Hotel, I started on a somewhat hectic recruiting campaign; telegrams from morning till night; endless interviews; many



disappointments. However, all was finally settled in time and I left Victoria Station by the morning boat train with officers and deck hands for both ships—in all about 120.

At the last minute it was decided that Captain (or, as he then was, Lieutenant) E. Boyle should accompany the expedition, not in command of either ship, but to represent Armstrongs should any questions arise in handing over the ships to Japan. "Paddy" Boyle and I were old friends and shipmates, and I was very pleased when he decided to travel in the "Kasuga." Alas, he died soon after the Great War, during which he served with much distinction as an Acting Captain and our Naval Attaché in Brazil.

We had a great send off and were rather a lively party. Many of my gallant tars had been celebrating the occasion, and I was glad when they were all in the train and we steamed out of the station to the accompaniment of cheers from the onlookers which were heartily returned. The journey gave me time to take stock of the position and give a few instructions to the officers, now assembled for the first time. I was fortunate enough to have as my Chief Officer, Mr. Nichols, who had sailed with me before, and Mr. O. Freemantle as Second Officer, who also proved himself remarkably efficient. The appointment of a gunner had presented some difficulty, as Royal Navy Gunners on the retired list were unwilling to come because they thought there was a risk of their losing their pensions. The question was solved, for the "Kasuga," by my brother taking on the job. Colonel C. H. Paynter was an ex-Cavalry officer, but became a very efficient "Gunner," and at once commenced work by taking charge of all the railway tickets for the party—no light job.

The journey to Genoa was not without its trials and anxieties, and I was glad to find that this was appreciated by one of my men who staggered up to me at Calais with the question, "Beg pardon, Sir, are you the Captain?" "Yes," I replied rather shortly. "What do you want?" "Oh! I don't want nothing, Sir," was the reply, "I merely wanted to tell you that I don't envy you your job!" Nevertheless, travelling *via* Paris and Turin, I brought my flock intact to Genoa late at night. I do not wish in any way to disparage my men, but you cannot get a picked crew at short notice, and in both ships there were many whom one would not have chosen; but many were sterling good fellows and if they did give a little trouble and anxiety at times it was only to be expected. A new ship with strange officers and crew takes some time to settle down, and this we did not have, as we were hustled off at a moment's notice, made the quickest possible passage and separated again at once.

At Genoa Lea met me and told me the ships were more or less ready,

but that we could not get on board them that night. The men were camped in a sail loft at the shipbuilders' works, and the next morning we took possession of our ships. Then our real work began.

I suppose Lea and I are very likely the only Englishmen who have ever commanded Japanese warships, for that is undoubtedly what the "Nishin" and "Kasuga" were. They were fully armed, provided with ammunition and, moreover, they flew the Japanese naval flag. Each ship carried a few Japanese officers, but they were merely passengers, although it was possible that in the event of diplomatic difficulties arising, they might have had certain duties to perform. As it was they were regarded as guests of the Captains. I fear that they were not so comfortable as they might have been, but the circumstances were peculiar and I hope my "Kasuga" guests believed that I did the best I could for them.

The fact that the ships were commanded by British naval officers was brought up in the House of Commons, and I was interviewed by the British Consul at Genoa, who informed me that my Commission was cancelled owing to the fact that I was taking this command without the leave of the Admiralty. I am glad to say that the passage of years has purged my offence, and that my Commission has since been restored to me.

We had a busy day. The ship was strange to me and even more so to my officers and crew, few of whom had ever served in a man-o'-war where everything is different from a merchant ship. We had English deck hands and Italians for the engine room, which meant different national ideas as to food, comfort and so forth; so I did not envy my Chief Officer in his work of settling them all down and telling them off to their different quarters and stations. At noon we cast off from the jetty and proceeded into the harbour where we anchored and swung for compass adjustment. This first manoeuvre provided me with rather a surprise. I stepped on to the bridge with a feeling of pride, signalled to the tug to go ahead. She towed our bow out from the jetty and I went ahead "slow" with both my engines. Now, no doubt I was to blame, I should have made certain that all was in order myself, but I had trusted others. The ship answered her helm and when we reached a suitable spot I stopped the tug, gave the order to stop the ship's engines and prepared to anchor. To take the way off the ship I went "Astern." To my surprise she still went ahead; only then did I notice that the engine-room telegraphs were not connected up and that my engines had never moved at all. There was only one thing to do. I let go an anchor and so brought the ship up.

The Chief Engineer got to work. The telegraphs were connected up and tried, but, even then, such is the fallibility of man, they were not

right, so that when we got under weigh next morning at 4.30 a.m. (9th Jan.) I found that the Port Telegraph when put "Full Speed Ahead" on the Bridge indicated "Full Speed Astern" in the engine room. However, a little matter of that kind is soon rectified and we got off safely to sea with the object of getting through the Suez Canal as soon as possible.

Japan was not yet at war with Russia, but an outbreak of hostilities was expected at any moment, so our position was rather precarious, especially as we knew there were Russian cruisers about. These we could not have attempted to fight with our untrained crew, and the prospect of being taken prisoner by the Russians was not an agreeable one. We did our best, but the ship was new and everything strange. We had to slow down two or three times for engine troubles. Our greatest speed was 15.8 knots, but the average was much less and Port Said was eventually reached at 7.30 p.m. on 13th January. We took in some coal during the night, entered the Canal at 5 a.m. next morning and reached Suez at 8.15 p.m. the same evening. Here both ships intended to coal and, indeed, we commenced, but, finding that two Russian men-o'-war were also coaling, Lea and I decided that discretion was the better part of valour, so we stopped coaling and got to sea next morning. Before leaving we arranged that the "Nishin" would finish coaling at Perim and the "Kasuga" at Aden.

I was glad to find that the Russian ships did not follow us, the more so when I discovered that I could make no speed as my condenser tubes had got choked in the Canal, and I did not reach Aden till 6.40 a.m. on the 20th. There we coaled. There too, we said good-bye to some of our men. We had had some trouble on the way down and the position was rather difficult. We were a man-o'-war but without naval discipline, or indeed any means of enforcing it. We had not even got the Board of Trade regulations applying to merchant ships to fall back on. I decided, therefore, that it would be best to land a few men who were especially troublesome and the Chief Officer paid them off before the Consul, providing them with lodgings ashore and their passages home. This course I pursued at subsequent ports, shipping any substitutes I could get. On arrival in Japan my crew was composed of Englishmen, Italians, Japanese, Chinese, Malays and Arabs.

Colombo was reached on the 27th January, the "Nishin" arriving about the same time and here both ships coaled, discharged some men, took on others and proceeded to sea next day. A little excitement was provided on entering the harbour, as the engine room telegraphs again gave trouble and refused to act when I endeavoured to reduce speed. Fortunately we were not actually inside, and helm was at once put hard over. We just cleared the end of the breakwater and stood out

to sea until the trouble was rectified, but it was a matter of a very few yards and a very narrow escape.

Singapore was reached at noon on 2nd February, and here we again just avoided disaster. We had got into the narrows with a very strong tide running. The pilot was in charge and gave the order "Starboard,"—"Starboard one Turn." Just then the tide caught the ship, and the pilot said "Hard-a-Port," but the helmsman having got "Starboard" into his head, started to give the ship more starboard helm. Fortunately my second officer, Mr. Freemantle, was standing by and seized the wheel and put it hard-a-port just in time.

The "Nishin" had arrived shortly before us, and both ships followed the usual routine, but this time coal was taken in to the utmost capacity, the ammunition passages being filled and a large quantity being also placed on the upper deck. The reason for this was that we had instructions on no account to touch anywhere until we reached Yokosuka, and that distance was over 2,800 miles. Further, we had definite instructions to be out of Singapore as soon as possible after midnight on the 5th. Accordingly both ships left to time and commenced their long and most unpleasant voyage against a heavy sea and the strong north-easterly wind prevalent at that time of year in the China Sea. One day we only did 129 miles, but matters improved later, and we reached Yokosuka at 10 a.m. on the 16th. The "Nishin" again was in first.

Outside I was met by a Japanese torpedo boat flying the signal "Follow me." She piloted us through the mine field, and showed me the buoy to which I was to make fast. Boats came alongside, and, before I had secured the ship, I had a message to say that the Japanese Captain of the ship was on board, and would like to see me when I was ready. I finished my work, rang down to the engine room "Finished with the engines," with perhaps a sigh of relief, and left the bridge for the last time.

Below I found the new Captain who said he had come to take over the command. At my request he sent men below to relieve my engine room staff. He then signed a receipt for the ship on half a sheet of notepaper. After that we shook hands, I wished him success with his ship, he thanked me for bringing her out, took charge of everything at once, and asked if I and all my men could clear out next morning. And so the voyage ended. It had been interesting, possibly full of trials, but still it was an experience that I would not have missed, and one which I shall always remember.

My next work was to land my men, house them and arrange for their passages home, and then I thought my work was ended, but I had not



reckoned with the hospitality of the Japanese nation. I was astounded to find that the arrival of the two ships was a signal for national rejoicing, and for the bestowal of the most lavish hospitality on the officers and crews. Never had I experienced anything of the kind before, and I certainly never expect to be entertained again in such a regal manner. The papers were full of the arrival of the ships, special post cards of welcome had been printed and on the journey to Yokohama we found decorations everywhere in our honour, and people waving flags and cheering.

Before leaving Yokosuka we had had a taste of what was to follow as we were guests at a beautiful garden party, and also at a banquet at Admiralty House, but at Yokohama we were really overwhelmed. Addresses from all the principal towns in Japan, presents without end for the officers and crew, and an official welcome from the Mayor and Citizens. From there we went by special train to Tokyo. The streets were lined with troops, triumphal arches had been erected, and our progress was indeed a royal one through the cheering crowds who were there to welcome us. Finally, Lea and myself, in company with Boyle, as the representative of the firm which had sent the ships out, all had the honour of an audience with H.M. the Emperor. He received us most graciously, decorated us with the Order of the Rising Sun, and was pleased to express his gratitude to us.

Before entering his presence we found in the waiting room beautiful gifts for each of us

After an expedition to Nikko we returned to Yokohama, having been compelled to refuse many invitations from this most hospitable nation. And so home across the Pacific and America.

One final word about my Japanese doctor. Dr. Suzuki, who was taking passage in the "Kasuga" stepped into the breach when an English doctor whom I had engaged failed me. His post proved to be anything but a sinecure; so, when I paid off the crew, I gave him the fee which it had been arranged that the English doctor was to receive. He absolutely refused to take it, but on my pointing out how well he was entitled to it, finally accepted it. A very few minutes later he was back in my cabin. He said he would only retain a very small portion of it and gave me nearly the whole, with a request that I would bestow the money on an English Sailors' Home. I gave five pounds to the English Sailors' Home in San Francisco. The remainder went to Miss Weston at Portsmouth. With it she equipped a "Dr. Suzuki" cabin. His name is on the door, and I only hope that some day he may visit it.

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## ARMY TRAINING: THE LESSONS OF 1927

By LIEUTENANT-COLONEL A. BAIRD SMITH, D.S.O. (retired).

**B**ETWEEN the views expressed by the author of "The Mechanization of War,"<sup>1</sup> and those of Captain Liddell Hart in the November issue of the JOURNAL,<sup>2</sup> even the most unprejudiced will find it hard to choose. But a perusal of both will lead to one impression—that the year 1927, in the mental and material evolution of the British Army, cannot be regarded, any more than its predecessors, as a distinguishable historical milestone. Argument and practical demonstration, far from having suddenly achieved a kind of forcible conversion, has merely served to convince the open-minded majority that a great many missing links are yet to be found.

It may perhaps appear, to some, like begging the question to discuss at length the relative values of two kinds of armies, the mechanized and the non-mechanized. There is, indeed, no advocate ready to maintain the proposition that man without the machine is as strong as man with it; what is debatable is—how are the two men with machines going to fight each other, what will their machines be like—and, as a further problem—how will they fight when their machines are all smashed up?

It would almost seem that the real purpose of the exercises on Salisbury Plain in 1927, has been, in some quarters, overlooked or misunderstood. Whatever preconceived ideas spectators or participants may have entertained, or however confidently they may have looked for the triumphant justification of the same, the fact remains that the object of the demonstration was to "try out" the mechanized force thoroughly, and to learn its powers and limitations. Since it is not the only force in Europe of its kind, it was perhaps unfortunate that it could not be tried against one similarly equipped. As it was, the "ordinary forces" were seriously handicapped, having no compensating superiority in artillery, and no suitable "anti-tank" guns for the infantry, or training in their use. Under these conditions, the correct tactics were not, as Captain Liddell Hart puts it, to "scurry from bolt-hole to bolt-hole," but to work, as was only common sense, from one "tank-proof" locality to another, making the proper use of ground,

<sup>1</sup> "The Mechanization of War," by Victor Wallace Germain, reviewed in the JOURNAL of November, 1927, p. 926.

<sup>2</sup> "Army Training," by Captain B. H. Liddell Hart. *Ibid*, p. 746.

as would be done in war. The fact that Salisbury Plain is particularly favourable for tank action, of course, made this kind of manœuvre more than usually difficult. It can be assumed that when the British infantry comes to be armed with suitable anti-tank guns, as other infantries are about to be armed, it will be able indefinitely to increase the area of "tank-proof" ground. Such guns, on the lines of the "Margetson," having a flat trajectory up to 1,000 yards, and on a light, mobile, all-round mounting, will, even if the battalions have no more than three or four apiece, render a properly constituted infantry position as "tank-proof" as is relatively possible. Thus the divisional artillery will be set free, and remain concentrated for its proper purpose.

The armoured fighting vehicles, particularly the tank, suffer from a certain myopia, which was obviated, during these exercises, by the simple expedient of having one of the crew as external look out for each otherwise closed machine. This served, too, the double purpose of preventing the tanks running over their own people, and of enabling them to avoid those more serious bumps, which, if too frequently encountered at high speed, tend, sooner or later, to put the crews out of action, and even to damage the machines themselves. The effect of concentrated "anti-tank" fire might well increase this myopia to blindness; while the roar and clatter of the whole mechanical array so clearly announces its approach, that if there are to be any of what Mr. Lloyd George, in another connection, once called "rabbit tactics" by the other side, there would usually be plenty of time to reach the burrows. Such limitations have, however, been fully dealt with in "The Mechanization of War"; they do not, of course, do more than curtail to a certain extent the great moral and physical effect of this arm.

On Salisbury Plain, under the given conditions of artificial disadvantage, the infantry was, as Captain Liddell Hart says, "between the tank devil and the high sky." In war, however, the actual disadvantages are going to be pretty equally shared by both combatants. As to the "high sky," it is a constant threat to all—alike to the "helpless" infantry in its tank-proof locality, and to the "tiger in his lair," otherwise the massed machines in their "laager" or "wagenburg," which, suggested as their suitable night refuge, would surely offer to the enemy airman the target of his dreams. The "tank devil," like the "man-eating tiger," will in due course have to encounter, not "fat oxen," but the hunter with his new weapon, the effective "anti-tank gun." No doubt the "mediaeval peasant" did not venture to "advance upon the mail-clad knight"; but the fully-armed pikemen, cross-bow men and musketeers, drilled to the ancient phalanx formation, moved, undismayed, not only in "defiles," but across the flattest parts

of Europe, successfully to encounter whole avalanches of chivalry. Not that these analogies are precisely relevant ; in fact, few things are so apt to be misleading.

To take some of Captain Liddell Hart's points. First, as to movement ; the mechanized force is, he asserts, amply secure, on the move, against direct interference. A bold claim, which the exercises of 1927, with their favourable setting, hardly appear to have substantiated. It is, too, a little confusing when no apparent distinction is made, in this respect, between armoured fighting vehicles and transport or haulage machines which are not specialized in invulnerability. The latter, if obliged to move in " bounds " on a broad front, are likely to prove as great an anxiety as any horse-drawn units. Salisbury Plain, no doubt, lends itself to " bounding," off the main roads ; the rest of Great Britain, and large tracts of Europe, do not. The great mobility of mechanized transport on roads cannot, naturally, be always maintained, if a number of vehicles are " shot up " and become obstacles to progress. The present relative air strengths of this country and of its possible opponents have some bearing on this point, a fact which could perhaps have been illustrated, during these exercises, by allotting 75 per cent. of the available aircraft to the " ordinary forces." The argument that aircraft cannot be kept aloft indefinitely in hope of such a " target " seems to assume either that the mechanized columns can only be hit when a check occurs, or that the enemy is very short of planes. If these columns travelled at the rate of an express train, they might escape a good deal of attention ; but until such desirable speed is attained, a numerous and enterprising air force will remain for them, as for other troops, a constant menace.

As regards reconnaissance. The six-wheeled armoured car will make its appearance, it is to be hoped, not very long before the perfected infantry " anti-tank " gun. If it is capable of taking over reconnaissance duties from the infantry, and presumably the cavalry, this difficult and dangerous task will be, for one thing, completely transformed. Visual " scouting " will take the form of " beating up " the enemy ; in other words, running along his front, or round his flanks, in " tankettes " and so drawing his fire. There is much to be said for this form of reconnaissance, especially if both sides agree to restrict themselves thereto. It will be quicker, will more surely " flush the game," and there will be no need to employ infantry soldiers as a kind of ostrich. Certainly it will rather resemble the so-called " scouting " of old-time peace manœuvres, when the establishing of the fact that there was some enemy in a certain locality was all that was deemed necessary for the prompt development of the plan of battle. But, apart from long reconnaissance by air, both

cavalry and infantry soldiers will agree that there is something more required. In this connection it is as well to remember that, in the War, the bulk of the information about the enemy's troops was collected by the infantry, that from all other sources being chiefly useful in confirming it.

Control is admittedly an ever-present difficulty. There may be a future for the expert aides-de-camp of the Napoleonic type, according to Captain Liddell Hart, as staff officers who will guide the mechanized formations to the points which the G.O.C. wishes them to reach. And as to where these experts are to be found, if, as he seems to think right, the G.O.C. has been disembarrassed of three-fourths of his "useless infantry," a large number of surplus regimental officers might assume this important role, which will be sufficiently hazardous to attract the most daring. They will not, of course, be mounted on horseback—the war-horse, as another writer puts it, is "an also ran"—but in one-man tanks. More staff officers are required, since, it appears, the rapid movement of the mechanized force gives no time for ciphering wireless messages. To adopt Captain Liddell Hart's nautical metaphor, the aides-de-camp in their dispatch vessels will range alongside the "landships" and shout directions to those commanders of battle-squadrons who have lost their bearings. In the midst of the rush and confusion of the "War of Movement" one selected Staff Officer must find time to "appreciate" the enemy's situation, directing from some dimension of space, the air reconnaissance to confirm or correct the same. A certain consolation must come to those old soldiers of a simpler age who reflect that the process of "selection" can no longer personally affect them.

The attack is now treated as "the attack upon orthodox man-power forces." But, as already suggested, such orthodoxy no longer exists; it began to develop into heterodoxy early in the present century, in South Africa and Manchuria, to become a full-fledged heresy by 1918. There is, therefore, no need to go out and fight windmills—in other words, armies composed of "helpless" infantry, antiquated cavalry, or incompetent artillery. A rude awakening awaits any staff that bases its calculations on one-sided superiority in any particular weapons or in any particular equipment. Nor is it any use to suggest methods to, "reinstate the essential simplicity of the great military eras," when the whole trend of continental preparation is towards further mechanical and chemical complexity. Bombed from the air, Genghiz Khan himself would have disappeared from the pages of history as rapidly as did the Mad Mullah of Somaliland. His horse-archers were, in their day, the perfection of mounted infantry; and one of their first qualities, apart from their capacity for dispensing with bases or lines of communication,



and world-wide reputation for "frightfulness," lay in the great superiority of their archery. The Mongolian hordes, "man-power armies" on a vast scale, could well afford simplicity in methods of war, the simplicity of a swarm of locusts. But it is hard to bring a Tartar bowman and a "tankette" into any possible comparative relation.

"What then becomes of the infantry?" asks Captain Liddell Hart. The British Infantry, with its past astonishing record of achieved impossibilities? If, as he says, it has "no offensive value" and has become merely "a very serious brake" on the other forces, there can be only one answer—it must be abolished. True, that there is no other infantry at present threatened with such a fate, that there are even General Staffs who regard infantry as "the basic combatant arm" to which the others are associated as assistants; but this may be explained by the fact that their countries are more wealthy, or at least not compelled to choose between machines or men. Yet the evidence produced against the infantry in the exercises of 1927 may appear to many of that unreliable kind on which, as the saying is, one would not "hang a cat." In what way the whole argument is lop-sided, has been pointed out above. There remain one or two other points of mistaken prejudice that need examining.

Owing to the supposed inherent viciousness of the Cardwell system and the awkward requirements of Imperial Defence, the British military administration is, it seems, bound by the necessity of maintaining a large "man-power," old-fashioned army in India and elsewhere overseas; and so military progress at home is hampered. A self-styled "Student of War," writing lately in a Sunday paper, detailed a scheme for overcoming this same difficulty. A "real army" "for service in War" at home, a "routine long-service garrison" for abroad, the former small and, of course, mechanized, the latter a police force in all but name. Perhaps, like Captain Liddell Hart, he thought that "the scope of possible operations in the Himalayas is obviously limited." So, indeed, it is; in fact, the mere sight of that stupendous obstacle will reveal their impossibility. But the Himalayas and the North-West Frontier are not one and the same, nor can the age-long problem of the latter, or the Afghan and Russian menace beyond that frontier, be dismissed as a "catchword." If a "real army" of real soldiers is anywhere required in the British Empire to-day, it is in India rather than in Great Britain. To collect "ordinary" infantry in regimental depots, in order to ship them, when trained, direct to foreign garrisons would infallibly bring the recruiting market to its lowest ebb. It may safely be assumed that if there is any "real army" to be raised that is the one into which the aspiring soldier will want to enlist.



There seem to be certain lessons which the exercises of 1927 do afford. Looked at from an infantry point of view, it seemed that a reasonable provision of effective "anti-tank" guns would so far redress the balance that infantry would preserve its power and freedom of movement. In attack, if it is assisted by a due proportion of armoured fighting machines, it will be able to cope with an infantry similarly armed, standing on the defensive; it will always be superior to an enemy consisting solely of machines. From a general point of view, the desirability of further mechanization must be discounted by the question of expense. Under present conditions, no nation can afford the upkeep and replacement in peace-time, of fleets of the bigger "landships"; they may be multiplied in the course of war, but more probably the smaller types will be more generally adopted. The question of cost applies equally to non-armoured vehicles and tractors; and, if the limit that can be paid for all mechanization is to be the measure of the size of the British Army, it will be small indeed. Here is perhaps a danger in modern military developments in this country—to economize men on the strength of a guaranteed supply of machines to take their place.

On the debatable results of such one-sided manœuvres it is surely premature to announce a new "doctrine" of war. In any case, if one is about to emerge, it cannot yet claim the hall-mark of the highest authority. "Man-power" has, indeed, recently been authoritatively described as our national main-stay, which is no more than the truth, seeing that the "resurrection of large man-power armies," with, of course, their appropriate machines, can only be prevented by the pacific development of civilisation. Several such armies exist to-day, not "resurrected" but in the full vigour of life. Demonstration by peace exercises is, after all, only a form of example differing in nature and value from those other examples furnished by the recorded experiences of past wars. Examples or demonstrations in sciences more exact than war can be concrete and positive. There is always something lacking to complete those of a military nature which may make them utterly worthless. "A superficially noticed example is," says Clauswitz, "like an object seen at a great distance . . . such examples have, in reality, served to support the most contradictory opinions."

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## A MOBILE LIGHT DIVISION

By MAJOR H. C. H. EDEN, M.C., R.A.

**B** RITISH troops may be called upon to operate under many conditions of climate and terrain, varying from the heat of Mesopotamia to the cold of Russia; from the mountains of the North-West Frontier of India to the swamps of the Sudan. War in a highly organized European country is only one of the contingencies to be met by our Expeditionary Force whose chief fighting role is that of an Empire Police Force, whilst for major wars we must, under our present organization, rely on the Territorial Army as our main army.

A mechanical vehicle adapted to all conditions of war is not yet in sight, while complete mechanization for the whole British Army is not yet a feasible proposition. This, however, is no reason why we should not proceed with the creation of one or more British mechanized formations suitable for service, in average conditions, as a Light Division in any part of the world.

In order to ensure that very high standard of co-operation, so especially necessary between mobile units, such a Light Division must be quartered together in time of peace and trained as a complete formation.

It would then be a much more efficient instrument than the improvised formations which have to be utilized at present both for carrying out trials with new machines and for discovering their effect on tactics.

In order that such a light division should be capable of rapid mobilization, the greater part of its vehicles must be fit for accommodation in normal merchantships, so as to ensure quick embarkation and equally rapid disembarkation at distant ports—or even on a hostile coast.

In wars on a larger scale the possession of a hard-hitting and highly mobile division would enable Britain to obtain full value from her sea power. It could, for instance, be used to cover surprise landings, while by pushing rapidly into hostile country it would gain "elbow room" for the disembarkation of the main force, or might even be used by itself for rapid raids based on the sea with the object of containing superior hostile forces in coast protection. During any stage of a campaign, a mechanized formation would be valuable to cover the advance of an army or to act on its flank, while, provided its organization

were sufficiently flexible, portions could be detached to perform the difficult operation of escorting embussed units when unprotected by troops on the ground. Lastly, it would form a highly mobile reserve with power to strike deeply, rapidly and decisively, especially in pursuit.

To achieve this end, it must possess maximum march mobility, must be capable of quick deployment and, to ensure concentration, its units should march at the same pace. Such conditions eliminate the horse altogether, while it will be necessary to provide units with machines, each carrying a group of three or four men and capable of travelling at a greater speed than the vehicles of the unit they serve. They will then be able to move ahead and carry out the necessary reconnaissances before the arrival of their units.

It is probable that a British Light Division may be required to work in lands whose natural resources are poor, and where good rail and road communications are lacking. If freedom of movement is not to be hampered by long supply columns, the requirements of the division must be reduced to a minimum by employing the smallest possible number of men and the most economical type of machines. To ensure simplicity, facility for repairs, and ease of administration, it is essential to keep the number of different types of machines as low as possible. For the above reasons no cavalry should be included permanently in the British Light Division.

Before going further we must be clear in our own minds as to what is meant by the word "division." Field Service Regulations now define it as "a self-contained formation complete in itself and comprising fighting troops and services in due proportion."

It is not necessary, therefore, for the organization of our Light Division to resemble in any way that which now exists, although units should, as far as possible, be of similar composition to the rest of the Imperial Army. To gain mobility and fire power, it may be necessary to reintroduce units such as motor machine gun batteries and cyclist companies, while existing units will have to be provided with new means of transportation.

To ensure cross-country mobility the proposed division should be built round tanks. The high initial cost of tracked vehicles of this type and the impossibility of making good casualties in war will, however, prohibit their employment as the sole means of transport in the Light Division. It will be necessary to make the fullest possible use of machines easily adaptable from those employed in commerce or agriculture and using the same spare parts. From our experience with ordinary four-wheelers during the Great War in such countries as Mesopotamia, Egypt, Persia, and North Russia, it is reasonable to suppose that

six-wheelers would be capable of manœuvring over most of the average terrain in which the British Army may be called upon to fight, especially if they can be so designed as to be rapidly converted to semi-track.

To make full use of the high mobility of units, it is essential that the staffs of any mechanized formation should be chosen from men specially selected for their quickness of decision and their ability to handle fast moving units and formations. Further, it may often be necessary to attach to the Light Division slower moving units such as cavalry, light artillery, etc., for definite objectives, and, if the fullest advantage is to be taken of the mobility of the Division, its units must be capable of being grouped and re-grouped rapidly and without confusion to meet particular situations. Such conditions demand not only a staff specially selected and trained, but also a generous provision of officers throughout the whole division, and the utmost flexibility in organization and supply services.

It would appear, then, that any completely mechanized formation adopted for service in the British Empire should, as far as possible, fulfil the following conditions :—

- (1) It must be maintained in a constant state of readiness and must be capable of rapid mobilization.
- (2) It must be organized and equipped so as to be easily embarked and disembarked on a hostile beach.
- (3) Machines must have good cross-country and march mobility across the average terrain of semi-civilized countries.
- (4) The number of different types of machines in the formation must be reduced to a minimum and should, as far as possible, be convertible from vehicles in commercial use.
- (5) The rate of march in self-contained groups must be uniform to ensure concentration.
- (6) The organization must be sufficiently elastic to enable re-grouping of existing units to take place or additional units to be absorbed without confusion or congestion.
- (7) The formation should contain services for its maintenance that will enable it to operate at a considerable distance from its railhead.

In most of the operations which might fall to the lot of a Light Division there would be required groups to (1) Reconnoitre ; (2) Hold on ; (3) Move widely and strike deeply ; (4) Take up the pursuit. During the course of a battle there would be little time to group and re-group units if full advantage is to be taken of their mobility to gain surprise. It is suggested therefore that units would be most efficiently grouped by functions rather than by arms and a suggested organization is shown

on the diagram attached. Such a method would enable those units which may expect to fight together to train together in peace, and thus ensure the highest possible standard of mutual knowledge and co-operation in war. The "Reserve" and the air group would enable a commander to allot engineers, air units and extra artillery, tanks, signals, etc., to sub-formations in the most economical way to meet particular situations. In order to give the greatest possible flexibility to the Division, units comprising A, B and C Brigades should as far as possible be themselves divisible into three self-contained sub-units; such an organization would allow the Division when required to be split up into three groups each with its reconnaissance, holding, and striking portions. It is, then assumed that a tank battalion would contain three companies each of three sections of four tanks or tankettes and that other units are similarly organized as far as possible.

The first duty of the Scout Brigade would be to push well ahead, obtain information, and gain touch with the enemy; it would be required to move more rapidly than the main body it is covering and must possess the ability to search ground. One armoured car company assisted by aeroplanes should suffice for the necessary distant reconnaissance, but a battalion of fast tankettes would be required for closer reconnaissance and to search ground. These, in their turn, would need the support of at least one company of Vickers tanks and a field battery if they are not to be held up by minor opposition. The battery should be capable of moving both on and off the roads at the same pace as the tanks it is supporting.

The Scout Brigade would need to be backed up by an Infantry Group as "holders." Such a name must not by any means, however, be taken to imply passive defence, as vigorous and rapid offensive action should be the keynote of all operations undertaken by any mechanized formation. The role of this Infantry Group would be to pin the enemy to the ground by continuing the attack, whilst the "Striking Brigade" moved round to strike the enemy in the rear or flank; the "Scout Brigade" might at the same time begin to re-form preparatory to assisting in taking up the pursuit. It is considered that infantry carried in six-wheeled lorries should form the backbone of the "holders" but they must be well supplied with automatic weapons and supported by machine guns, artillery, and, when necessary, tanks; they will need some motor cyclists for march protection. Each lorry should carry a complete sub-unit, so that a special organization will be required for these battalions. An increase in the number of automatic weapons should allow of an appreciable reduction in personnel, but a considerable number of anti-aircraft and anti-tank weapons must be included in each battalion.



The "Striking Brigade" would be required to act swiftly and in close co-operation with the other brigades and should not only possess a high degree of cross-country mobility but must be generously equipped throughout with the most modern means of inter-communication, including a few fast-moving tankettes for reconnaissance and local protection, while artillery will also be required to provide smoke screens and to assist in dealing with hostile anti-tank weapons and tank counter-attacks.

A fourth brigade comprising divisional troops should be added in order to facilitate command and increase flexibility. This would form a reserve from which the divisional commander could reinforce any group or brigade for a particular operation, or into which he could absorb units temporarily not required by other brigades. To ensure a smooth and rapid advance the division should be well equipped with bridging equipment and should be contained in this brigade and allotted to brigades as required. One of these units should be equipped with tracked vehicles and the other with six-wheelers; both would be organized into three sections each carrying 30 ft. of Inglis bridge. One Field Squadron, R.E., of special organization should be sufficient to carry out the demolitions and other engineer services required.

Owing to the wide area over which such mobile units may be expected to operate and the pace at which they will move, their control will be one of the greatest problems that will face the commander of a mechanized division. The Signal Service must therefore possess the most recent means of intercommunication and, as the necessity of preserving secrecy will frequently prevent the use of wireless, light aeroplanes should be provided for the transmission of orders and the maintenance of intercommunication.

In order to facilitate maintenance and repair, and to ensure their most economical employment, it is considered that all aircraft should be grouped together and allotted to sub-formations, signals, etc., as required. Further, to ensure the maximum co-ordination of ground defences against attack and observation by enemy aeroplanes, it would be essential to place under one commander all the means of anti-aircraft defence not included in units. This duty might best be performed by the officer commanding the air group.

It is calculated that the four brigades of the division we have suggested, together with the necessary divisional headquarters and signals, would contain some 13,000 men and require daily nearly 100 tons of supplies (including petrol, oil and grease) when travelling maximum distances; in addition, ammunition, R.E. and ordnance stores will be a heavy addition. If operating close to the main army, the normal

## SUGGESTED ORGANIZATION OF A BRITISH LIGHT DIVISION

## "A" BRIGADE (SCOUTS).

Brigade H.Q.  
 Brigade Signals.  
 1 S.P.\* Battery R.A. and Amm. Col.  
 1 Bn. Tankettes (36 Tankettes).  
 1 Coy. Vickers Tanks (12 Tanks).  
 1 Armoured Car Coy. (12 Armoured Cars).

## "B" BRIGADE (HOLDING BRIGADE).

Brigade H.Q.  
 Brigade Signals.  
 1 F.A. Brigade (T.D.)\*\*  
 1 Light Battery R.A. (S.P.)  
 1 Infantry Bde. (3 Bns. in 6-wheelers).  
 1 Machine Gun Battn. (3 Coys. each of 12 guns).  
 1 Motor Cyclist Company.

## "C" BRIGADE (STRIKING BRIGADE).

Brigade H.Q.  
 Brigade Signals.  
 1 S.P. Brigade R.A. (3 Batteries).  
 1 Company Tankettes (12 Tankettes).  
 2 Battalions Tanks (72 Tanks).

## AIR GROUP.

According to nature of operations.

## "D" BRIGADE (RESERVE).

Brigade H.Q.  
 Brigade Signals.  
 H.Q. Divisional Artillery.  
 1 F.A. Brigade (T.D.)  
 1 Anti-Tank Brigade R.A.  
 1 Anti-Aircraft Brigade (R.A.)  
 1 Divisional Ammunition Column (special organization).

H.Q. Divisional Engineers.  
 1 Bridging Coy. R.E. (Tracked).  
 1 Bridging Coy. R.E. (6-wheelers).  
 1 Mechanized Squadron R.E.  
 1 Machine Gun Battalion (36 Guns).  
 1 Battalion Tanks (36 Tanks).  
 1 Armoured Car Company.  
 1 Motor Provost Company.

## SIGNALS.

Special Organization.

## MEDICAL GROUP.

2 Motor Field Ambulances.  
 1 Motor Ambulance Convoy.  
 1 Sanitary Section.

## MAINTENANCE GROUP.

Group Headquarters.  
 Group Signals.  
 Ammunition Company.  
 Train.  
 Special Salvage and Repair Company.

## O.C., L.-of-C.

Supply Units, protective troops, workshops, etc., allotted according to requirements.

\*NOTE—Self-propelled.

\*\*NOTE—Traction-drawn.

system of supply would probably suffice. If operating 100 or more miles away from railhead, or with unprotected line of communication, the maintenance of such a formation will be extremely difficult. It is possible that the necessary supplies and ammunition might be conveyed by air, should the necessary number of aircraft be available for this purpose. Other possible systems are :—

- (1) By establishing tank-proof L. of C. posts at fifty miles interval and running daily convoys between posts. But such posts, with their stores of ammunition and highly inflammable petrol, would be tempting targets for hostile raids by air or on the ground, while their static nature would tie down an undue number of troops to passive defence.
- (2) The formation to advance self-contained with each day's supplies in separate M.T. echelons with their own protective troops. Such a system might be feasible for operations of two or perhaps three days, but the amount of supplies and ammunition required for longer periods would entail convoys whose size would be unwieldy and which might unduly curtail the freedom of action of the division.
- (3) Daily escorted convoys running straight through to the division and returning when empty.

It would thus appear that the question of maintenance and the necessity for overhaul and repair of vehicles may prevent a mechanized formation from operating for more than three days away from an organized base.

The organization put forward must be regarded as being merely tentative and there will doubtless be many who will disagree entirely with both its size and composition. But the principle which the writer wishes to emphasize is that, in considering a mechanized formation on the lines proposed, there is no need to be bound by any comparison with existing "divisions" or "brigades," and that grouping by arms might not necessarily be the most efficient organization.

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## FIRE POWER OR ARMOUR

By CAPTAIN R. HILTON, M.C., D.F.C., R.A.

**F**IGHTING power in the field depends on two distinct faculties: the power to strike and the power to parry the enemy's stroke.

In modern war striking power entails heavy guns, large stocks of ammunition and a strong air arm with a commensurate ground organization. Protection, or the power to parry, necessitates heavy armour and other weighty adjuncts. In every stage of tactical development in the past a happy medium has had to be struck between fighting power and mobility. So long as methods of transport could not be improved, fire-power was only to be augmented at the expense of mobility or *vice versa*. To-day mechanized transport is increasing both the mobility and the carrying-power of armies so far and so rapidly as to threaten a revolution in their armament. It seems, therefore, to be a matter of the highest moment to consider most thoroughly how far this acquired carrying-power can most usefully be translated into fighting power.

The first and inevitable step, therefore, is to determine the relative values of fire power and armour, although both of them can and will no doubt be used in combination; the problem is one of proportion.

It is possible to class together the field gun, the tank, and the battleship as three examples of weapons in which both striking power and protection are embodied. The field gun mainly possesses great striking power, while its protection is poor since it has but a small shield to keep out distant rifle fire, shrapnel and splinters. It must be remembered that this shield, moreover, is valueless when the gun is surrounded. No doubt it is possible to design another shield which would afford more complete protection, but this step would defeat its own object, since either the fire power or mobility of the gun would then have to be reduced. A tank depends mainly on its armour but possesses a certain amount of hitting power. The fire power of a tank is often spoken of as though considerable. Yet, if we consider the huge bulk and weight of the vehicle, the engine power employed in moving it, and the conspicuous target which it presents, we must acknowledge that the fire power obtained from all that energy and material is insignificant in comparison with the weight expended on protective measures. Nevertheless this protective power is only proof against small arm fire, even from very close ranges; the armour is not proof against any larger projectile, unless the latter breaks up before penetrating, or strikes a glancing

blow. For example, against solid armour-piercing shot from a 3-pounder gun the present armour of tanks would be quite ineffective. It is true that few nations at present possess special anti-tank guns of this nature in any number. This, however, is no doubt only due to financial stringency, and the fact that tank development itself is still mainly in the experimental stage. We are now considering the future, and if we visualize the existence of large numbers of tanks, we must also admit that armies will have large numbers of anti-tank guns.

It is often said that we are about to witness a race between gun and armour on land similar to the contest which has played so important a part in naval construction during the last fifty years. It may be so, but there are strong reasons for doubting it. On land the gun has already got a very long start. In all civilized armies there exist large numbers of guns from 3-inch calibre upwards. Tanks would have to become veritable battleships to be able to carry armour which would surpass the upper limit of these guns. The present tank relies upon its armour for protection only against the "small fry" among fire-arms. Against field guns or any thing larger it depends upon its mobility and speed. If, as appears certain, a good anti-tank gun joins the "small fry," designers of tanks will be faced with a critical problem.

Let us imagine for a moment that the new anti-tank gun can penetrate armour one inch thicker than existing armour. Tanks will have to be re-equipped with armour just over an inch thicker than heretofore. Now an extra inch of armour may not sound very much, but if it has to be thickened to this extent all over the hull, the aggregate increase of weight will be very considerable. How is this to be compensated? Not by cutting down the fire-power of the tank, for even if this were entirely eliminated, it would only represent a fraction of the extra weight.

There are two possible alternatives: as the first alternative, extra engine power may be installed without enlarging the hull. This presents several disadvantages. The additional weight is still carried on the same bearing surface (i.e., contact surface of tracks with ground). This means that the pressure per square inch will be greater. The tank will either be restricted to very hard ground, or its pace will be reduced when forcing its way through ground into which the tracks sink deeply. Another disadvantage is that extra engine power will mean extra petrol consumption. Either larger fuel tanks will have to be carried,—thus reducing the free space inside the tank,—or the radius of action per fill of petrol will have to be cut down.

The other alternative is to enlarge the hull as well as the engine power. It must be remembered that in proportion as the hull is enlarged the area to be armoured is increased also, which makes it very improbable that the extra weight of increased armour could be taken up by this means. People are apt to draw a false analogy from the growth of capital ships. The two cases are entirely dissimilar. A 30,000 ton battleship displaces thirty thousand tons of water, and having done so



a state of equilibrium is reached. She can be made no less mobile than a 20,000 ton ship which has reached the same state of equilibrium by displacing twenty thousand tons. A 30-ton tank, on the other hand, does not displace thirty tons of earth. It remains on top of the earth and presses down upon it with a weight of thirty tons. It is by no means on equal terms with a 10-ton tank which only exerts a pressure of ten tons. If the battleship had to ascend steep hills, the two cases might be more similar than they are.

In any case, such an increase of armour would only carry the struggle between armour and the gun one stage further. That ultimate result is inevitable, for if tanks increase their armour to be proof against the smaller pieces, they would still be vulnerable to larger ordnance. Through being heavier, although possibly slower and bigger, they would offer much easier targets to the fire of normal artillery. If then a race between guns and armour on land is bound to result in the inferiority of the latter, we may assume that tanks of the future will abandon the hope of competing with guns. The exact calibre below which they will stop is quite immaterial.

Colonel Fuller, in a recent article, stated that the deadlock on the Western Front was originally caused by the fact that machine guns can be made very mobile by means of lorry transport. He pointed out that no matter at what spot infantry might seek to advance, the opposing machine guns would always forestall their attack by this greater mobility. He inferred that if tanks had been used instead of infantry such a deadlock would not have occurred. But if we visualize the replacement of infantry by tanks, we must also replace machine guns by 3-pounder guns in our mental picture. The question is then one of relative mobility between 3-pounder guns and tanks; and on comparing the weight of a 3-pounder and its ammunition with the weight of a tank's armour and armament there can be little doubt as to which could be made more mobile.<sup>1</sup> The same engine power which moves a tank at twenty miles an hour, could move many 3-pounders at a very much greater speed. A whole section of these guns might be transported in one cross-country vehicle, designed, not to equal the tank in obstacle-crossing capacity, but to out-strip it in speed over all normal country and along roads.

<sup>1</sup> Some interesting figures bearing upon this are to be found in the Royal Artillery Journal, for July, 1927, in an article entitled "Infantry Guns." The gist of them is as follows:—

- (a) The Schneider Creusot 1½-inch gun penetrates a 5-inch steel plate with a 1½ lbs. projectile; weight of gun is 3 cwt.;
- (b) Vickers automatic 1½-inch penetrates a 2½-inch plate with a 1½-inch projectile. If automatic fire were given up, weight of gun and mounting could be reduced to about 5 cwt.
- (c) 13 mm. T.U.F. (Tank und Flieger) gun penetrates 1 inch of armour up to three or four hundred yards. Rate of fire 300 rounds per minute. Weight of gun not stated.

A force of these mechanized anti-tank guns working in conjunction with aircraft could forestall advancing tanks, even more effectively than machine guns in lorries were able to forestall advancing infantry. Infantry can take advantage of broken ground to continue their advance, to a far greater extent than is possible with tanks.

Faced with this opposition, tanks will have to fall back upon the old principle of covering fire. The tactical features of 1914 battles will be repeated, with tanks in the place of infantry and 3-pounders in place of machine guns. Artillery will be mechanized to enable it to keep up with the swift advance of the tanks, and will provide the necessary fire-power to keep down the fire of the defence. Consequently it becomes clear that there must be a great tendency for a great proportion of the energy derived from mechanization to be directed towards developing striking-power rather than to increasing protection.

The next step will be to ask ourselves what benefit will be obtained even from the armour carried by the tanks. We have seen that it will be proof against rifle and machine-gun fire, but not against 3-pounders. What use will that be in a battle, wherein 3-pounders will have taken the place of machine guns, and where small arm calibres might play a secondary part? It is only common sense to suppose that, in battles where old-fashioned infantry scarcely appears, the whole series of calibre values will be changed. No army will use small arm weapons if there is no suitable target for their fire. So tanks might end by finding themselves in the anomalous position of being armoured against a non-existent danger, yet unprotected against the main weapon of future battlefields. Their armour will simply turn them into blind monsters. It will not only become so much useless dead weight but a perilous encumbrance.

Under these circumstances would it not be better to dispense with useless armour, and to use the carrying power thus relieved to increase fighting power of a more offensive kind? This by no means signifies the complete abandonment of the armour idea. The history of war shows that the use of armour in moderation has always been a valuable addition to the fighting power of troops or machines. For example, long after the mediæval mailed horseman was forced by fire-power to give place to ordinary cavalry, a certain limited quantity of armour still continued to be used by the latter. The XVIIth century trooper wore a steel helmet and stout leather coat to keep out sword cuts and spent bullets. The heavy cavalry of most Continental armies in the Napoleonic wars wore helmets and cuirasses, the use of which continued up to the Great War. During the course of that war steel helmets were again brought into use for all arms.

It is only when the application of armour is exaggerated that it becomes a fallacy, a fact that can be observed in naval construction. With the possible exception of the Monitor and the Merrimac in the American Civil War, no warship has ever yet been built which was quite unsinkable by contemporary gun-fire. Naval constructors know exactly

the penetration powers of existing guns. One might imagine that they could allow an extra margin for further increases in gun power, and produce a ship so heavily armoured that no guns could damage it. Were they to do so, however, they would be falling into the "fallacy of armour." What they actually do is to make a correct use of armour, by giving the ship so much protection that an enemy can only overcome the armour by exposing his own ship to destruction. The true use of armour lies in treating it only as an aid to fire-power, that being the real protective agency on which the safety of ships, troops or fighting vehicles depends.

Thus a correct use of armour was made by the cavalry referred to above. The shield of a field gun is another illustration of the correct use of armour. A field gun with no shield would not be such an efficient fire-power machine as a shielded one. Therefore the use of armour to that extent is sound.

Is there not rather a danger that in perpetuating the tank idea in its original form we may fall into this "fallacy of armour." The tank achieved a remarkable temporary success during the war because the small arm calibre weapon was then the predominant arm. Is there reason to suppose that these conditions will continue? Suppose that, instead of the tank as we know it now, we were to employ self-propelled 3-pounders equipped with shields. These shields might be made proof against splinters, against shrapnel and rifle fire, and penetration of 3-pounder projectiles at anything but close range.

These new fighting vehicles would no longer be able to expose themselves to all round fire, as can the present-day tank, because their armour would only protect them from frontal fire. Even with this disadvantage one may ask whether they would not be a much more efficient weapon than the tank in its present form, which will then become little better than a metal box to be perforated at will by guns, the latter having then become the predominant calibre for close quarters.

The proposed 3-pounder, shielded and self-propelled, would form such a comparatively light-weight that its hull could be lightened, engine power reduced, and gear ratios considerably raised. Its driver and gun detachment would have an extensive and unimpeded view of the ground and tactical situation. It would be a far faster and more mobile weapon than any tank, and its hitting power would be increased out of all proportion, for, though a closed tank may be bristling with weapons, the effectiveness of these is greatly reduced by the very small field of view.

In the composition of an army built up on the principle of hitting power rather than of armour we see that infantry will still be necessary, since although tanks can penetrate a hostile army without "mopping up," it is obvious that the proposed "self-propelled 3-pounders" could not do so because even a few infantry could put them out of action by an attack from behind. The attacking force must consist of

the 3-pounders themselves and "mopping-up" parties of infantry carried forward in shielded cross-country vehicles.

These two elements together would form the "infantry" of the future, fire-power being derived from 3-pounder guns, ability to make good the ground from close quarter parties. In defence we see that this new composite arm would also fulfil the role of present day infantry. The 3-pounders would be un-shipped from their hulls, and mounted in concealed positions with a good field of fire. The accompanying "close quarter parties" would be sited in covered positions near at hand, so as to protect the 3-pounders from being run over. A proportion of this "new-model infantry" of the defence would be kept in reserve on its hulls—ready to launch a counter-attack. The change from infantry fighting of the present day is only one of degree. That is to say, movements will take place at ten or twenty miles an hour, instead of one or two miles an hour. The fire-swept zone will be broader, and will be swept by projectiles of  $1\frac{1}{2}$ -inch calibre instead of .303-inch. Otherwise everything will be the same. Powerful artillery fire will be necessary to neutralize the defence and to allow this "new infantry" to go forward. Intensive air-fighting and counter-battery work will still be required to smash down the fire-power of the enemy artillery.

The "all-armour" idea is founded upon a natural desire to avoid heavy casualties, to win battles without bloodshed. Unfortunately this cannot be done. "Victory" said Scharnhorst, "lies in teaching soldiers how to die, not how to avoid dying." In the warfare of the future casualties in all arms will probably be very heavy. The whole series of operations making up a battle will depend upon fire-power in various forms, i.e., superiority in aerial fighting, greater mass and accuracy of artillery fire, local fire superiority of 3-pounders against 3-pounders, and, finally, the fighting power of the "bomb-and-pistol" men brought into action by machines. The real difference from wars of the past will be that mechanization will allow all this fighting power to be intensified.

It was not the failure of fire-power which caused the Great War to degenerate into a war of attrition. It was due to the fact that tactical mobility—mobility on the battlefield—did not keep pace with fire-power. Mechanization will restore the scope for generalship which was lost during that war, provided that we do not throw away its value by weighing down our armies with useless armour. Mechanization properly exploited will enable overwhelming fire power to be concentrated at the decisive spot. With small armies of intense hitting power, highly mobile and able to follow up their initial blows, war may again become more of an art and less of a business. Surprise will be restored to its former position of importance, and we may hope to see again brilliant manoeuvres and decisive battles reminiscent of Marlborough and Napoleon.

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## PHYSICAL TRAINING

By MAJOR A. C. AMY, D.S.O., R.A.M.C.

(Deputy Director of Hygiene, East Anglian Area).

**I**N August, 1908, there appeared an Army Order, No. 206, introducing our present Manual of Physical Training, in which it is stated that "the object of physical training is the production of a state of health and general physical fitness, in order that the soldier's body may be enabled to withstand the strain of daily life and to perform the work required of it without injury to the system."

That manual is still with us, remarkably little changed since the day of its birth. Minor alterations and amendments have resulted in a slow and sound measure of improvement; but the firm basis of its teaching, and the scientific principles built thereon remain unchanged despite friendly and unfriendly criticism, despite the reforming zeal of the enthusiast and the passage of time. This, surely, is a great tribute to the real founder of the Manual, Pehr Henrik Ling; also to his interpreters here, the late Major Charles Moore, of the Royal Berkshire Regiment, and Lieutenant Langkilde, M.V.O., of the 5th Danish Infantry. So often does one hear of the "British Army System of Physical Training" that it seems right to remember the father of this so-called "British System."

In its essentials it is the only scientific system of physical training which has ever been evolved; it is the Swedish System as practised at its best—that is to say, as practised in Denmark; and it represents the life-work of the famous Swede, Pehr Henrik Ling.

Ling was the son of a clergyman, and was born at Ljunga, in the south of Sweden, in 1776. He matriculated in 1793, and took his degree in arts and divinity in 1797. Instead of becoming a country parson, Ling decided to travel. His was the spirit of the adventurer and pioneer, so for some time he taught modern languages in Copenhagen, while during the next seven years he wandered through Germany and France and, it is thought, visited England. He earned a precarious livelihood by teaching and writing—including the writing of poetry—and became interested in the study of such diverse subjects as military history, sculpture and fencing; indeed, as an exponent of fencing, he earned considerable repute. At this period Ling was hampered by a delicate



constitution, while financial straits and the hardships and privations which he underwent combined to cause a serious breakdown in his health.

In 1804 he returned to Sweden and, despite his increasing physical disabilities, set up as a teacher of swordsmanship and gymnastics in the town of Lund. To his astonishment and delight his health quickly and markedly improved. In a comparatively short time he found himself to be a strong and vigorous young man, with a growing reputation in the work to which he had devoted himself, and with an appointment as fencing master to the University. The man of action became the man of thought. What therapeutic measures have brought about my cure? Obviously—the movements and exercises necessitated by my daily work.

Ling then set himself to solve the following questions :—

Can I benefit others as I have benefited myself? Is it possible to devise various movements, with different physiological effects, for the treatment of specified ailments? Can a series of movements be devised which will tend not only to keep healthy persons in healthy condition, but which will also strengthen them by developing their bodies equally, and in all directions?

Ling's next step was characteristic of the man. Coming to the conclusion that it was impossible to work out a rational system of gymnastics without a thorough knowledge of the structure of the human organism, and of its functions, he succeeded in persuading the Senate of the University of Lund to grant him permission to study anatomy and physiology.

In 1806 he began to attend the dissecting rooms and lecture halls and, in the course of years, he went through the entire medical curriculum. He did not, however, take a medical qualification. It is well and but fair to Ling's memory, that this part of his career should be emphasised, since there have been many "professors of massage," "professors" of Swedish Gymnastics and Physical Culture—false prophets, unworthy imitators and charlatans. To that company Ling does not belong.

With the aid of his former experiences and his new and extensive knowledge, Ling at last produced his new system of gymnastics. He divided it into four branches: (1) Educational.—this can be adapted for the strengthening and development of all; (2) Aesthetic.—in which the pupil is taught to express his thoughts and feelings by gestures and movements—as in classical dancing; (3) Military; (4) Medical.

It may be mentioned in passing that the system adopted, and adapted, by our Army is a combination of the Educational and Military branches, with the addition of certain characteristically British elements.

Public interest in Sweden was at once aroused. Eventually, in 1813, Ling induced his Government to open at Stockholm the Royal Gymnastic Central Institute, subsidised by the State, with himself as Principal.

In the beginning the strongest opposition came from the orthodox medical profession. Ling and his pupils had to face bitter antagonism, and constant discouragement. However, patient waiting and sound work were recognised in the end. In 1831 Ling was elected by the Swedish General Medical Association to be a member of their body. Eight years later he died. His successor at the Institute was L. G. Branting; Karl Augustus Georgii became sub-director.

Georgii was the first who attempted to introduce Ling's methods into England. When he was at work in this country Branting died, in 1862. Georgii was asked to succeed him but refused, as he considered his work here to be of paramount importance. His standards and teaching are, at the present moment, ably upheld at Madame Osterberg's training college in Kent.

It is a matter of great regret that neither Ling, nor any of his three greatest followers, ever published an authoritative, comprehensive account of the system. They seem to have been too much absorbed in the practice of the subject. The system was, however, reduced to writing in several manuals published by the two Germans who were responsible for the introduction of Ling's methods to their country, but, although careful and conscientious recorders, they erred in the usual German way, on the side of exaggeration and hyper-optimism. Kellgren's "Elements of Manual Treatment" (1903), has been translated into English by Edgar F. Cyriax, M.D. (Edin.), but contains rather extreme views, and is of more interest to the doctor than to the soldier.

The Royal Navy was the first of the Services to adopt Ling's system. After a few years, in 1906, the Army followed suit in an experimental fashion. Since the system became officially recognised in 1908, it has developed, advanced and become firmly rooted as an essential part of our training, in spite of the fact that only twenty years ago the new system was received in the British Army with the same scorn and scepticism as it met with in Sweden in 1813. The hearty welcome which Ling's system eventually received was typically British.

We have found the system to be excellent, not because we have proved it by study, but because we have seen that it produces the desired results. We did not—and we never have—considered the theory of it; sufficient unto us the practice thereof. Our Superintendents of Army Gymnasias and Instructors in Physical Training are usually athletes, boxers, international footballers, champion sprinters and so forth. Imagine men such as these in a dissecting room! While in order to

perpetuate and emphasize the British *flair* for compromise, a few officers of the Royal Army Medical Corps have "specialised" in Physical Training. Now, however, only one of these is "Specially Employed." Thus it is that advance is, first and last, with the exception of the few R.A.M.C. experts, practical only. That is the weakness of our system; and it says much for the caution and traditions of the Army Physical Training Staff that mistakes have been few, relatively unimportant, and generally corrected in the course of time.

The Scandinavian countries are more thorough. At the R.G.C.I. the course extends over a period of three years (for qualified medical men, one year). The curriculum includes the theory and practice of the four branches of the system; anatomy, physiology, pathology, symptomatology and hygiene. Students passing the prescribed examinations, receive the diploma of "Gymnastic Director," which legally entitles them to practice as medical gymnasts, and brings them under the jurisdiction of the Swedish General Medical Council. In fact, he who takes up physical training becomes a professional man, with the same status, standard of education and outlook as a doctor or lawyer.

Much might be written about the way in which, in the past, physical training has been made the plaything of the crank and the instrument of the charlatan. Hjalmar Ling said: "Frenchmen, Belgians, Englishmen, Italians and Russians have in the course of years now and then sent here so-called authorities, who have stayed in Stockholm a few days, partaken of ceremonial dinners, looked on at the gymnastics without taking any practical part in them, and who understand nothing, neither the language nor the subject." That was in the year 1882.

Nevertheless, in the course of a discussion on "The Medical Aspects of Athleticism" which was held at the Annual Meeting of the British Medical Association in July, 1909, one of the speakers said: "Much more value is undoubtedly to be obtained by outdoor games and sports than by compulsory military drill and the gymnasium, and I regret to see that one of our foremost public schools has recently brought into vogue compulsory gymnastics. These latter I would like to see used in every large school for those members who from some defect or other cannot go in for the regular orthodox games, including cross-country running. My critics will at once point out the magnificent physique and the fine development of bone and muscle of the gymnastically-trained Swede or drill-sergeant; but who would not prefer the more wiry and alert development found in the 'Varsity Blue,' even though at one time he was adorned by the 'Eton Slouch'? For those present will be familiar with the condition known as 'muscle-bound,' which is found at its highest grade of development in an army gymnastic

instructor or the instructor of a school of physical culture. This, of course, is due to the great development of flexor and extensor muscles, whereas the schoolboy athlete develops the muscles required for the game or sport indulged in, and at the same time, as the game usually includes a swift-travelling ball or a rapidly-dodging competitor, his eye and nervous system are trained to receiving sudden impressions and to giving rapid response thereto, and this rapid response entails quick contractions of certain muscles, with quick movements of joints, and at the same time a readiness of resource and power of initiative. Before passing from this group, let me urge all headmasters and officials of big public schools to avoid supplanting the British schoolboy by a muscle-bound and more sluggish youth, even though his chest measurement may be slightly greater and his biceps somewhat bigger."

This statement will not bear analysis. The premises are wrong: the "gymnastically trained Swede" is pushed into the same class as the old-fashioned drill-sergeant; it is inferred that the Swedish system produces a muscle-bound condition. This betrays an utter confusion of ideas and terms, in other words, a total ignorance of the whole subject. However, we have advanced since 1909; and, although the speaker quoted above did not know it, he was really advocating, in sound and detailed fashion, the adoption of Ling's own methods!

At the same meeting the late Sir Lauder Brunton remarked that "Colonel Fox, who has done so much for physical training in the Army, has suggested that, instead of old army sergeants acting as gymnastic masters in public schools, there should be University graduates of equal standing with classical masters, who should act as games masters. If this suggestion were approved of, and pushed by the British Medical Association, I believe that much good might be done to the race." That brings out a point of great importance, for what applies to boys in public schools in this respect applies with even greater force to recruits in Depots. If the Rockefeller Foundation, or some such corporation, were to establish a Royal Gymnastic Central Institute in this country, on the same lines as that in Stockholm, it would be a great thing from every aspect.

If, at the coming-of-age of our Manual of Physical Training, we in the Army can agree that this idea is sound in principle, and worth adopting as a policy for the future, then we may lay a wreath on the grave of Pehr Henrik Ling and, with safety, inscribe it thus:—

"There is no Royal Road to Learning."

(b) The Cadet Corps, which was started in 1891, and consists of Parachute Companies formed in the different regiments. Some 6000 members, from 16 to 22 years of age, and combining military method with moral and religious instruction, this



## OUR BOY RESERVES LAND ORGANIZATIONS

By LIEUTENANT-COLONEL F. G. POOLE, D.S.O., O.B.E.,  
late The Middlesex Regiment  
(Cadet Colonel Commandant of Surrey).

*'I called upon the New World to redress the balance of the Old.'*

CANNING.

"**F**EELING down on your luck?" said his battalion commander to a gloomy-looking subaltern in Flanders during the late war. "Then get among the men more."

For men let us substitute boys and escape awhile from sacerdotal disputes and Income Tax returns. Moreover, if we do not get amongst the young, others will replace us with their Communist training. The necessity of influencing the young is, fortunately, realized and evidenced by a network of voluntary organizations throughout the country. It is well to satisfy ourselves, however, that their work is co-ordinated.

As it is difficult to estimate the value of the numerous Boys' Clubs, Industrial Homes, Guilds and Juvenile Organizations, let us deal with the bigger voluntary movements. Such well-known maritime activities as the Navy League and Sea Cadets must form the subject of a separate article, by another writer. In this article it is proposed to deal seriatim with voluntary "land" organizations.

(a) The senior of all these is the *Boys' Brigade*, founded in 1883 by Sir William A. Smith, now united with the Boys' Life Brigade, founded in 1899, the whole now numbering about 90,000 members from nine to eighteen years of age. The object is religious, and, though at one time part of the Cadet Force, this organization is now "entirely free from all connection with the Military Forces." In their manual, however, it is laid down that "it is essential that one or more of the officers of each company should be qualified to give the boys the necessary Drill Instruction."

(b) *The Church Lads' Brigade* was started in 1891, and consists of Parochial Companies formed in the different parishes. Numbering some 60,000 members, from ten to twenty-one years of age, and combining military method with moral and religious instruction, this



organization, unlike the Boys' Brigade, forms part of the Cadet Force, and is affiliated to the King's Royal Rifle Corps.

(c) *Secondary School Cadet Corps.*—About forty years ago various Public Schools formed companies similar to and attached to those of the Volunteer Force then in being. These companies became Cadet Corps, and either went into camp with the Volunteer Battalion to which they were attached, or united to form what was known as the Public Schools Cadet Camp, which for some years was held at Aldershot. When, in 1908, the Territorial Force absorbed the old Volunteer Force, these School Cadet Corps had the opportunity of joining the Officers' Training Corps then being formed. Between 1908 and 1910 the majority did join, and after 1910 those who did not join, together with newly-formed corps, remained as Cadet Corps.

During the Great War, many other schools, as well as other organizations, contributed towards the production of trained personnel by forming Cadet Companies, receiving the assistance of the local Territorial Associations. These patriotic formations were officially recognized and are annually inspected by the military authorities. They are affiliated to Territorial units, and in the recent issue of Cadet Regulations it is laid down: "The term 'Cadet Unit' . . . applies to cadet platoons, companies, battalions, brigades, and all higher formations of lads formed for the purpose of receiving mental, moral and physical training through the medium of military instruction. The object of training lads is to develop in them principles of patriotism and good citizenship during peace, and to fit them, in the event of a national war, to take their places in the defence of their homes and country." Here there is no ambiguity about the objects of this force.

Cadet Corps consist of boys from twelve to eighteen years of age, and corps unconnected with schools, institutions, churches or chapels are also affiliated to the local Territorial units.

An Association called the Public Secondary Schools Cadet Association forms an annual camp, at which more than 2,000 Cadets attended during 1927.

The Cadet units in each county are financially self-supporting, the assistance from the Government being annually 1s. to the Territorial Army Associations for each qualified Cadet of a recognized Cadet corps, while a further grant of 4s. annually for each qualified Cadet is made to these units through the Territorial Army Association.

(d) *The Officers' Training Corps.*

Senior Division	..	Universities.
Junior Division	..	Schools.

This is under the War Office and is not a voluntary organization. Many Secondary School Cadet Corps naturally seek admission to the Officers Training Corps on account of the superior financial grants.

(c) *The Boy Scouts*.—This splendid widespread movement, founded about twenty years ago, is well known. The following extracts from "Scouting for Boys" by Sir Robert Baden-Powell, should be noted :—

"The aim of the Scout Training is to replace Self with Service, to make the lads individually efficient, morally and physically, with the object of using that efficiency for the service of the community. I don't mean by this the mere soldiering and sailing services; we have no military aim or practice in our movement; but I mean the ideals of service for their fellow-men . . . Without any Government subsidy . . . we have 305,867 members in the United Kingdom and 474,195 in the Empire. . . *The Wolf Cubs*, 8 to 11; *The Boy Scouts*, 11 to 17; *The Rover Scouts* from 17½. . . *The Girl Guides Association* is a sister organization on precisely similar lines and principles, though differing of course in detail."

As this large non-military boys' organization has attained such a measure of popularity, it appears that the public deems it more worthy of support than naval or military training for boys. On the other hand, it may be said that naval or military virtues are virtue simplified and made ready for the struggle, while true discipline is conscience, organized for the common cause and turned to practical account for human ends. It is only the bogey of "militarism" which tends to scare away these sound principles.

The nets to catch the young are thrown far and wide, and such an imposing array of voluntary organizations represents a high degree of public spirit on the part of promoters and members; but let us see what measure of co-operation between these organizations is apparent from this mass of voluntary effort.

The Boys' Brigade disavows its connection with the Military Forces, and attracts some 90,000 boys from 9 to 18 years of age, while the Boy Scouts, a non-military body, attract some 306,000 members and the movement has taken root in all parts of the British Empire. It should be noted that Rover Scouts (over 17½) are of Territorial age, and, after 18, of age for enlistment in H.M. Forces. Indirectly many of these boys may enter H.M. Forces or the Territorials, while these organizations do much to prevent the work of the young from becoming a "blind alley."

While both the Church Lads' Brigade and other Cadet Corps attract some 100,000 boys, affiliation with Territorial units does not ensure that this trained personnel is available for the Territorial Army. Boys often

leave Secondary Schools at the age of 16, and the age for Territorial enlistment is 17, thus many fishes escape through the meshes of this net, and at a time when the Territorial Army is below strength.

Again, non-military organizations do not go under canvas with military bodies, nor the Officers' Training Corps with Secondary School Cadets, while Primary Schoolboys, Church Lads' Brigade and independent Cadet Corps, seldom share camps with the latter; one-half of this boy world does not know how the other half lives; and a standing camp formed in any county, available for all boy organizations, would meet with little support. The meshes in that net are unusually large, and the co-ordination of voluntary organizations is not anywhere apparent. If sometimes we lose the Boy Scout at fourteen when he goes to work, we may more often lose the Secondary School Cadet at sixteen, and yet both would prove useful Territorials at the age of seventeen, as well as good material for H.M. Forces at sea, on land, and in the air.

The Territorial Army can overcome great difficulties. In the Strike of 1921, I commanded a battalion of the Defence Force for ninety days: kind Territorial hands provided me with most of the officers and men. Again, in May, 1926, when a sergeant of the Civil Constabulary Reserve, kind Territorial officers (then styled Inspectors and Superintendents) gave me a steel helmet and a constable's baton.—"Plus ça change, plus c'est la même chose." Cannot this same Territorial Army tighten the meshes of the cadet net, and ensure for themselves a steady flow of Boy Reserves; in other words, take over the Cadet Force, lock, stock and barrel? Financial considerations may stand in the way, while those who look upon voluntary organizations for boys as mere "welfare" movements may oppose it.

It is suggested that in each county a Cadet Brigade or Brigades should be formed as Junior Brigades of the Territorial Brigade or Brigades, each Territorial battalion being responsible for the training and organization of its affiliated cadet battalion. A Territorial Division would thus have a Territorial Cadet Division under its direct care. Such an organization may seem a very "skeleton" or "paper" one, yet possibly preferable to one which appears powerless to prevent hundreds of useful lads from slipping through our hands.

Can we afford to neglect any opportunity of creating Boy Reserves for the defence of the country? Neither pious hopes, senseless optimism nor inspissated gloom can replace sound organization with the human touch. Our hope is in the young of our race. Let us organize them to be capable of defending their homes and country like all good citizens.

## COMMERCIAL AIR ROUTES

BY AIR VICE-MARSHAL SIR SEFTON BRANCKER, K.C.B., A.F.C.,  
Director of Civil Aviation.

On Wednesday, 2nd November, 1927, at 3 p.m.

AIR VICE-MARSHAL SIR VYELL VYVYAN, K.C.B., D.S.O., in the Chair.

THE CHAIRMAN introduced the Lecturer.

### LECTURE.

**A**BOUT two years ago I had the honour of reading a paper to this Institution on "Air Communications in the Middle East." Since then much has happened, but our progress has not been quite as fast as we could have wished. This slowness has been largely due to lack of money, but international difficulties have played some part in delaying us as well.

*Definition of a Commercial Air Route.*—I feel I must begin with a definition of the term "commercial air route." This is difficult because a commercial air route between any two points is as a rule by no means a straight line between those two points. For instance, the present air route between London and Paris is not direct; we rather feel our way across the narrowest part of the Channel. Again, in going from London to Copenhagen, we do not take the straight compass course, but go to Lympne, cross to somewhere about Cape Griznez or Calais and then work up along the coast. On the Cairo-Karachi route which has lately been opened, when crossing the desert we follow the old Air Force line, because there we have a well-marked route, emergency landing grounds and the Rutbah Wells with a water supply in the middle of the desert. Thence we follow the Persian Coast in rather a zigzag manner, depending on our fuel and stores being supplied by sea. When you turn to the selection of future airship routes it seems likely that to reach Canada we may make for the Azores or to Bathurst on the West African coast, so as to benefit from the prevailing winds, while on the return journey we may fly straight back from Canada to London. Consequently the best definition of an air route is "the route between any two air ports which offers the best navigational conditions."



*Ground Organization.*—A true commercial air route must be provided with a certain measure of ground organization in the shape of emergency landing grounds, wireless communication, directional wireless stations, a meteorological reporting organization, lighthouses, customs facilities and many other things, all of which involve expenditure. There is a tendency amongst theorists to play too much for safety in this question of organization. For example, it was originally suggested that there ought to be emergency landing grounds every ten miles between London and Paris; we have proved this to be quite unnecessary. In the United States, on the regular route from New York to San Francisco, there is a section of 900 miles where they fly by night, along which there exist landing grounds every twenty-five or thirty miles, provided with a big lighthouse, and small lighthouses at intervals of six or eight miles. Personally I think this excessive; it means spending too much money on the ground. Similarly, I often receive suggestions with regard to Trans-Atlantic flying, and am asked to establish three or four huge floating aerodromes in the middle of the Atlantic; each of these would cost at least a million of money. Now, if air transport is to be a commercial proposition in the future, the whole cost of the ground organization has to be borne by the operators, mainly in the shape of landing fees, rents and taxes. Therefore I am against any excessive ground organization, for as aircraft improve in reliability, range and speed, ground organization will become less and less necessary and air routes will become more and more direct, until flying boats will be flying direct from the West Coast of Ireland to the Coast of Newfoundland on a compass course.

*Cross-Channel Air Routes.*—I will now explain the organization of certain Air Routes, beginning with the cross-channel route. Between Croydon and Paris, at Penshurst, Marden and Littlestone on the English side, and at Berck, Abbeville, Poix and Beauvais on the French side, there are emergency landing grounds with telephone communication. At Croydon, Lympne, St. Inglevert, Abbeville and Paris there are wireless stations for ordinary communication with aircraft in the air. All the way across, the regular air liners are in close communication with one of these stations, reporting their position and receiving the latest weather information; also in thick weather, news of the proximity of other aircraft. At Croydon, Pulham, Lympne, Paris; also at Brussels and at Amsterdam, there are directional wireless stations always listening-in. If a pilot is lost above the clouds, he has only to call for his position. The station concerned takes his direction, and it is sent to a central distributing station, either Croydon or Paris, who will within two or three minutes of his request for information give the pilot his exact position on the map. In addition to that, at Lympne (and at St. Inglevert) there



are Customs stations so that aircraft coming from the Continent and wishing to go to some other part of England than London, can land, clear the Customs and be free to go anywhere. In the same way, it is possible to land at St. Inglevert and clear the French Customs.

*Lighting of an Air Route.*—A complicated system of lighting exists on these routes. Each aerodrome has a lighthouse to guide the pilot, while the edge of the landing place is lit so as to define its area. At Croydon and Paris there are big lighthouses, with two or three intermediate lighthouses between Croydon and Lympne, about four more between St. Inglevert and Paris. These are all lit every night at sunset for the assistance of air traffic. We also have floodlights which actually light up the whole surface of the aerodrome. So far there has been little night flying along these routes, because of the lack of commercial demand; but it is bound to come in the future, and I hope to demonstrate that night flying will prove one of the most important means of improving air transport in Imperial communications. The cross-channel air route provides an excellent means of gaining experience and training pilots in night-flying work.

I have inspected the lights at Paris, Le Bourget and Berlin, and I think our methods of lighting are the best in existence. On a fine night at Croydon it is almost easier to land by night than it is by day. In addition to the air route lights and the aerodrome local lights, there are also the old Channel marine lighthouses, which are now being unmasked on the land side; they will provide most valuable assistance to us in air navigation by night.

*The Cairo-Karachi Air Route.*—This route has been built up on a line established by the Air Force four or five years ago. It goes straight across an almost waterless desert between Trans-Jordania and Iraq. In order to obviate machines losing themselves, the Air Force made a track across that desert along which all aircraft had to fly, so that if an aircraft did come down it would be easily found. We still fly more or less along that track, which has been laid so as to touch the Rutbah Wells, the only place in the desert with a dependable water supply. This has been established as a half-way re-fuelling point. The continuation of this route runs along the Persian Gulf, as it is comparatively easy to supply any point on the coast with fuel and stores from the sea, whereas a direct air route would lie across a very wild and difficult country. Actually the Persians have raised objections to our maintaining a regular British air service flying along their coast, so the question of flying along the Arabian instead of the Persian coast is under consideration.

*Airship Air Routes.*—Future air routes for airships offer endless possibilities. Actually the only British air route for airships so far organized runs from Cardington to Karachi, the first stage being to Ismailia on the Suez Canal. At Cardington we have a mast and a large shed; another shed is being built. At Ismailia we have a mast. The next stage is to Karachi in India, where a shed exists and a mast is being erected. The route can be described as being purely experimental, and it does not necessarily follow the line of future airship operations.

*General Plans for the Future.*—Our general plans for the future are concentrated on three main objectives. The first is through connection with heavier-than-air craft (aeroplanes, flying boats or seaplanes), from London to Melbourne *via* India. The second is a branch line from this main line, either from Cairo or from some other point on the Mediterranean, *via* Central Africa to Cape Town. Our third objective is an airship service in some direction not yet been determined.

*Imperial Airways.*—At the present day the company known as Imperial Airways fly, during the summer, to Paris and on to Zurich in Switzerland. They also fly to Brussels and Cologne. They have also a small service of flying boats across to the Channel Islands, and sometimes subsidiary services to places like Ostend, Etaples and Deauville. Of these, the most interesting line is the London-Basel-Zurich, for the more one studies the question the more evident does it become that European connections do not matter to us very much and that we ought to concentrate on creating a through line from London across Europe, and so on to India and Australia.

*The European Stage.*—I will take the stages between London and Melbourne in turn.

Having arrived at Basel and Zurich, our problem is to decide how we are going to reach some point on the already established Cairo-Baghdad-Basra link; this has not yet been decided. There are various alternatives. We may go down by Corsica and Sicily to Malta and so over to Tripoli and then along the North African coast to Cairo. We may, on the other hand, go to Brindisi, Athens, Rhodes, Cyprus to Haifa; or we may go from Genoa to Syracuse in Sicily across to Tobruk and then along the Lybian coast; or again by Crete and Sollum. This is a matter that cannot be settled speedily because it depends not only on finance but on various international complications. Our present tendency is rather to "wait and see" as regards Europe, and to let the problem work itself out more or less on natural lines.

*The Mediterranean-India Stage.*—The next section is easier. We are already operating from Cairo to Baghdad and Basra. Imperial Airways

have been operating here first with a fortnightly service from January, 1927, and then with a weekly service since last March; they have accomplished the remarkable feat of flying on that service with complete punctuality and regularity, and without accidents or casualties. We have also proved that that particular section is very easy to operate. Before starting there was some doubt as to the effect of dust storms and various other local factors, but it has been found that with good pilots, good organization and good aircraft those difficulties were comparatively easily overcome.

*The Persian Section.*—This is quite easy of operation, although the country is rather forbidding, navigation is extremely easy, barring occasional violent winds off the mountains, or occasional dust storms. Operations here will be child's play as compared to those in this part of Europe during bad weather.

*Indian Section: The Karachi-Calcutta Stage.*—Having arrived at Karachi, there comes the crossing of India. From the financial point of view, we regard this as the business of the Indian Government, which has, indeed, more or less undertaken that organization as soon as a British service flies regularly to Karachi. From the experience gained by the Air Force and others, it seems that even during the monsoon, the time of heaviest rain, there are no serious air navigation difficulties in India, so that operations will certainly be easier than in this country.

*Indian Section: The Calcutta-Rangoon Stage.*—The next link is Calcutta to Rangoon, which for practical purposes can be considered the other terminus of the Indian Empire. This is a section which might be started quite independently of the through connection, because there is very heavy traffic between Calcutta and Rangoon. Without the co-operation of any other air service this link could accelerate considerably the English mail to Rangoon. It is essentially suited for the operation of flying boats rather than aeroplanes. For eight months of the year it will be a very easy route to operate; but for the other four months it will offer difficulties because of very heavy rains prevalent along this coast and because of the threat of typhoons. However, as a matter of fact, with proper meteorological arrangements in India, which will be developed in order to deal with aviation, two or three days' warning of the course of typhoons will be available, which will enable precautions to be taken to avoid them. I have no doubt that improved aircraft and improved wireless arrangements for navigation will allow us to fly through the rain.

*Rangoon-Singapore Stage.*—The next stage is from Rangoon to Singapore, rather a "no man's land," where presumably the Imperial

Government must be responsible for whatever expenditure is involved. We have already reconnoitred this and consider it a perfectly feasible route, both for aeroplanes and seaplanes, although a certain amount of money must be spent on improving its facilities. The weather conditions are very much the same as between Calcutta and Rangoon. Very violent rain occurs at certain times of the year, with possibilities of typhoons, which can be avoided by good meteorological organization. At Singapore there are already British interests negotiating for a British air transport service from Penang to Port Swettenham, Singapore, and on to the Dutch East Indies at Batavia. They will have to work in co-operation with the Dutch, who are beginning to be very active regarding air communications between the Dutch East Indies and Holland. This is only a small section of the route on to Australia, but should be able to stand on its own, as there is much local traffic.

*Singapore-Australia Stage.*—Next comes the portion of the route between Singapore and Australia. This covers the Dutch Islands and then a big jump of about 400 miles by sea from the nearest island to the northernmost part of Australia. It was discussed at the last Imperial Economic Conference, and, as a result, it is possible that the Australian Government will accept the responsibility of developing this particular section.

*Australian Air Routes.*—Finally, we come to Australia itself, where we find a really bright example of enterprise and efficiency. Australia has gone right ahead in this matter of air transport, spending something like £130,000 or £140,000 a year for some time on air transport in Australia. There are three companies, one on the western coast between Perth and Derby, one from Charleville *via* Cloncurry to Camooweal in the north, and one from Adelaide to Cootamundra with branches from Broken Hill to Mildura and Hay to Melbourne. They have had remarkable success, and only two accidents. These occurred long ago, and, in the minds of the Australian Government and of the Australian people, the enormous benefits that air transport can bring to a country with big distances and a beautiful climate have been proved—so far, that a few months ago the Australian Government decided to put another £200,000 a year at the disposal of the civil aviation department. This will enable a number of new lines to be put into operation connecting practically the whole country by air. The following are the probable extensions:

- Adelaide to Perth;
- Adelaide to Sydney, Brisbane and Charleville;
- Extension of Melbourne-Hay line to Charleville;
- Extension of Charleville-Camooweal line to Daly Waters;
- Extension of Perth-Derby line to Wyndham;
- Melbourne to Tasmania.



*Future Time Tables.*—I will now give you a rough time table of the results accruing from this development:

ROUGH TIME TABLE—LONDON TO MELBOURNE.

Stages.	Distance.	Possible to-day with 12 hours' daylight.	Possible after further organization and full operation of night flying.
1. London to Cairo ..	2,712 miles	3 days	35 hours
2. Cairo to Karachi ..	2,527 miles	3 days	33 hours
3. Karachi to Rangoon	2,221 miles	3 days	30 hours
4. Rangoon to Singa- pore.	1,278 miles	2 days	18 hours
5. Singapore to Port Darwin.	2,423 miles	3 days	33 hours
6. Port Darwin to Mel- bourne.	2,280 miles	3 days	30 hours
Total .. ..	13,441 miles	17 days	179 hours.

You will see that with the limited amount of night flying now possible, i.e., starting in the dark in the morning and landing in the dark in the evening, it would be possible to fly from London to Melbourne, a distance of 13,441 miles, in seventeen days with the aircraft which Imperial Airways are operating to-day. But we should require money, both for subsidy and for a certain amount of ground organization.

In five to ten years' time, according to our rate of progress, we shall reduce that seventeen days to about 180 hours; this time table, however, would involve a great deal of night flying and a very good ground organization, particularly as regards re-fuelling. You will see that twenty-four hours are allowed to cover 1,800 miles. As the aircraft of the future will, I am convinced, cruise at a minimum of 100 miles an hour, this time table would leave six hours out of the twenty-four for re-fuelling, changing over to new aircraft, changing the pilot and so on, a perfectly practicable proposition, which gives you some indication of what air transport will do for the Empire in the future.

*Strategic Value.*—One feature of this England to Australia route via Egypt, Iraq, India and Singapore deserves special note: I mean its very great strategic value. It will give all Air Force units stationed along the line a high measure of mobility, and will render possible a rapid



concentration of all available air strength at any desired point along the route. This country has always had command of the sea and been able to move troops wherever they were required. But they have been limited in speed. Now we have command of the air, and the time table gives some idea of the rapidity with which our new striking force can be transferred from one portion of the Empire to another. With the exception of Europe, it is almost an all-red route. The airship of the future will be able to fill in the gaps if necessary, and will establish communication between this country and any selected point on the line.

*The Cairo-Cape Town Route.*—The second objective is the branch line from Cairo to Cape Town. This has not the same military value as the other route; but in a way it is a more interesting route, because it passes through the heart of a partially developed country, well away from the sea. The first section from Cairo to Khartum is quite easy and is frequently operated by the Royal Air Force. It has wireless and meteorological facilities. Generally speaking, the weather is extremely good, though during the hot weather the flight over the desert to Khartum is extremely bumpy. After leaving Khartum the route passes over a very interesting country, with, generally speaking, a climate that is a good deal cooler than further north. It seems likely that this section is best fitted for the operation of flying boats or seaplanes, but it is possible for aeroplanes also. A number of aerodromes exist throughout the route, but the use of a flying boat or seaplane gives great flexibility because of the very numerous alighting facilities on the Nile and on the Great Lakes. Soon after leaving Khartum the route passes over the Sud, which from the tourist's point of view is extremely interesting; from the air can be seen vast herds of elephant, numerous buffalo, occasional hippopotamus and even lion. Towards the south there is some very beautiful scenery. The Nile becomes swifter, and is broken by many beautiful rapids and falls.

*Experimental Service from Khartum to Kisumu.*—An experimental service between Khartum and Kisumu has been in operation this year, but it has been dogged by bad luck. More than a year ago the Protectorate of the Sudan and the Colonies of Uganda and Kenya decided to spend between them some money for this experimental service.

Last January, Captain Gladstone took a seaplane with pilot and mechanic to carry out twelve experimental flights in each direction. Four return flights have been carried out with perfect success and regularity and without incident. But, unfortunately, no less than three crashes have occurred during test flights—an unheard of bit of ill-fortune which has crippled the enterprise for the present.

My own impression is that the most serious danger on that route is not in the air at all but at night on the ground or at moorings during some of the very violent storms which occur during certain seasons of the year. Otherwise there do not appear to be any serious difficulties except that only partially full loads can be carried on account of the height above sea-level of some part of the route.

Nature favours us in some places. Between Khartum and the Great Lakes very continuous winds blow up and down the Nile at certain times of the year. It has been found that by flying at about 5,000 feet a wind is encountered which blows in the opposite direction to that near the ground; a most valuable discovery which ensures a favourable wind no matter in which direction the aircraft is flying.

The present experimental service finishes at Kisumu. From thence onwards, with flying boats, the route will follow Lake Victoria, Lake Tanganyika, Lake Nyassa to the mouth of the Zambesi and then down the east coast to Cape Town; or with aeroplanes the present route is approximately Tabora-Abercorn-Broken Hill-Bulawayo-Pretoria-Bloemfontein-Cape Town. The latter route has been flown by several people. The first man to get through was Van Rynveldt, in 1920. Cobham did a very successful trip there and back a year ago. The Air Force have carried out two successful return trips. Thus a good deal is known of this route, and no serious difficulties have been discovered. Our only real enemy is finance. If an aeroplane service were established the best commercial route would not be by Tabora, but would probably branch off from Kisumu to Nairobi and then follow the Tanganyika Highlands which are being rapidly developed. The route by Tabora passes over long stretches of most impenetrable jungle which is just as well avoided. Cobham intends to go along the flying-boat route in the near future on his way to Cape Town. He then proposes to return along the coast of West Africa.

The route between Cairo and Cape Town offers considerable financial difficulties owing to the expense of building and the high cost of fuel, stores, etc., delivered at these out-of-the-way stopping places in Central Africa. It will be a vast benefit, however, to the various Central African Colonies and Dependencies, while it offers great possibilities for the rapid transport of gold and diamonds in the future.

An approximate indication of the time necessary to reach Cape Town from London with a regular service: first, under present conditions and, secondly in the future, when night flying will be possible, is given in the following table:

ROUGH TIME TABLE—LONDON TO CAPE TOWN.

Stages.	Distance.	Possible to-day.	Possible after further organization and full operation of night flying.
1. London to Cairo ..	2,712 miles	3 days	35 hours.
2. Cairo to Nairobi ..	2,494 miles	3 days	33 hours.
3. Nairobi to Cape Town	3,056 miles	4 days	40 hours.
	8,262 miles	10 days	108 hours.

*Airships.*—I must now go back to airships. We have two airships under construction to-day, one by the Government and one by a private firm. They should both be flying some time next year<sup>1</sup>. They are big ships of 5,000,000 cubic feet. They are designed to fly at 70 knots and to carry 100 passengers. They have a range which will enable them to reach India without a stop. How they will be first employed is not certain. Canada has committed herself to building an air port at Ottawa, and South Africa and Australia will certainly follow suit. Thus, after these ships have been thoroughly tested in this country, it seems likely that our first effort will be to establish an experimental service to Canada. It is the easiest airship route in the Empire and does not run in direct competition with heavier-than-air routes. We do not know exactly what course such a service to Canada will take. It may be that the outwards run to Canada will best be made *via* Bathurst and then across the Atlantic; and the homeward voyage direct. The best route to Australia may prove to be made *via* Durban to Perth, coming back possibly *via* India. There again, from available meteorological information, we believe that between Durban and Perth the wind low down blows in one direction, while high up it blows in the opposite direction. The whole question of the employment of airships is still very fluid because we have nothing like the same experience with them that we have with aeroplanes. But I believe that they will prove to be of very great value in improving our Imperial communications where long sea flights are involved.

So far I have kept strictly within the limits of my title, i.e., "Commercial Air Routes," but I do find it necessary to go a little further and to put some life-blood into these Imperial arteries, which I have been trying to describe.

In connection with air transport there are three categories of financial responsibility which fall upon the Government. The first is the

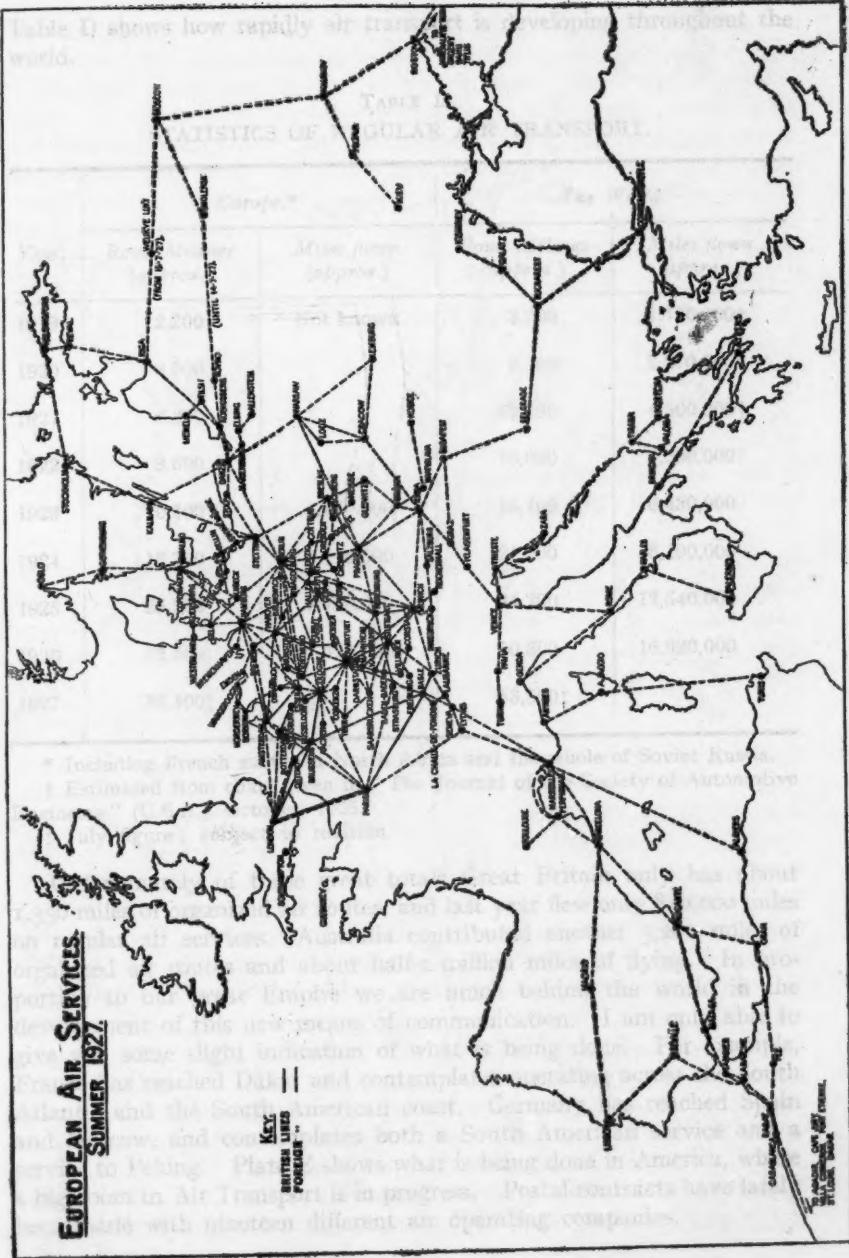
<sup>1</sup>i.e., 1928.

organization of air routes, that is the provision of aerodromes, wireless organization and so on. The second is the development of better commercial aircraft, a very important item. And the third is the provision of subsidies for the actual operations, because unfortunately air transport will not pay its way at present except under exceptional circumstances. The expenditure on the first head, ground organization, is usually accepted as being a legitimate charge; it is obvious that money invested in this way can be justified for military reasons, while we hope that as time goes on and air traffic increases, any money we spend on organization on the ground will eventually produce a good return in the way of rents, landing fees, etc. The other two items of expenditure, the development of commercial aircraft and the provision of subsidies, have a good many bitter critics. These critics maintain quite logically, that it is not the duty of Government to develop commercial aircraft, but that they should be developed by commercial interests for their own purposes. They also contend that it is wrong for Government to subsidise commercial operations. The policy of giving subsidies to commercial ventures has been followed in many countries, but it has always been much disliked by the British Government. Personally, I very much sympathise with that point of view. Subsidies cause trouble in every sort of direction, but unfortunately we have to face the facts. If only there was no foreign competition, and if no immediate necessity for quickening up Imperial communications existed, we could leave air transport to grow up naturally and build itself up on its own commercial merits. But unfortunately we have to face certain solid facts. The first is that air transport does not pay its way to-day except under exceptional conditions. Secondly, there is very keen foreign competition, and we cannot allow foreigners to establish our Imperial communications for us, nor can we stop them from doing so, if we are not prepared to do it ourselves. Thirdly, there is no doubt that every part of the Empire is crying out for improved communication. The possibilities of accelerating shipping lines has been explored, but it is generally agreed that nothing much can be done in that direction without overwhelming expenditure; and there is now a unanimity of opinion that Imperial communications must be speeded up by developing air transport. The Great War forced air transport on us, and on everyone else, before its time. The war left all States who had taken part therein with a vast heritage of unemployed pilots, surplus aircraft and a large store of aviation experience. Every nation has tried to turn these assets to commercial use. If there had not been a Great War the commercial use of aircraft would probably have grown slowly and subsidies might never have been necessary.

Plate C shows the present development of aircraft in Europe, while

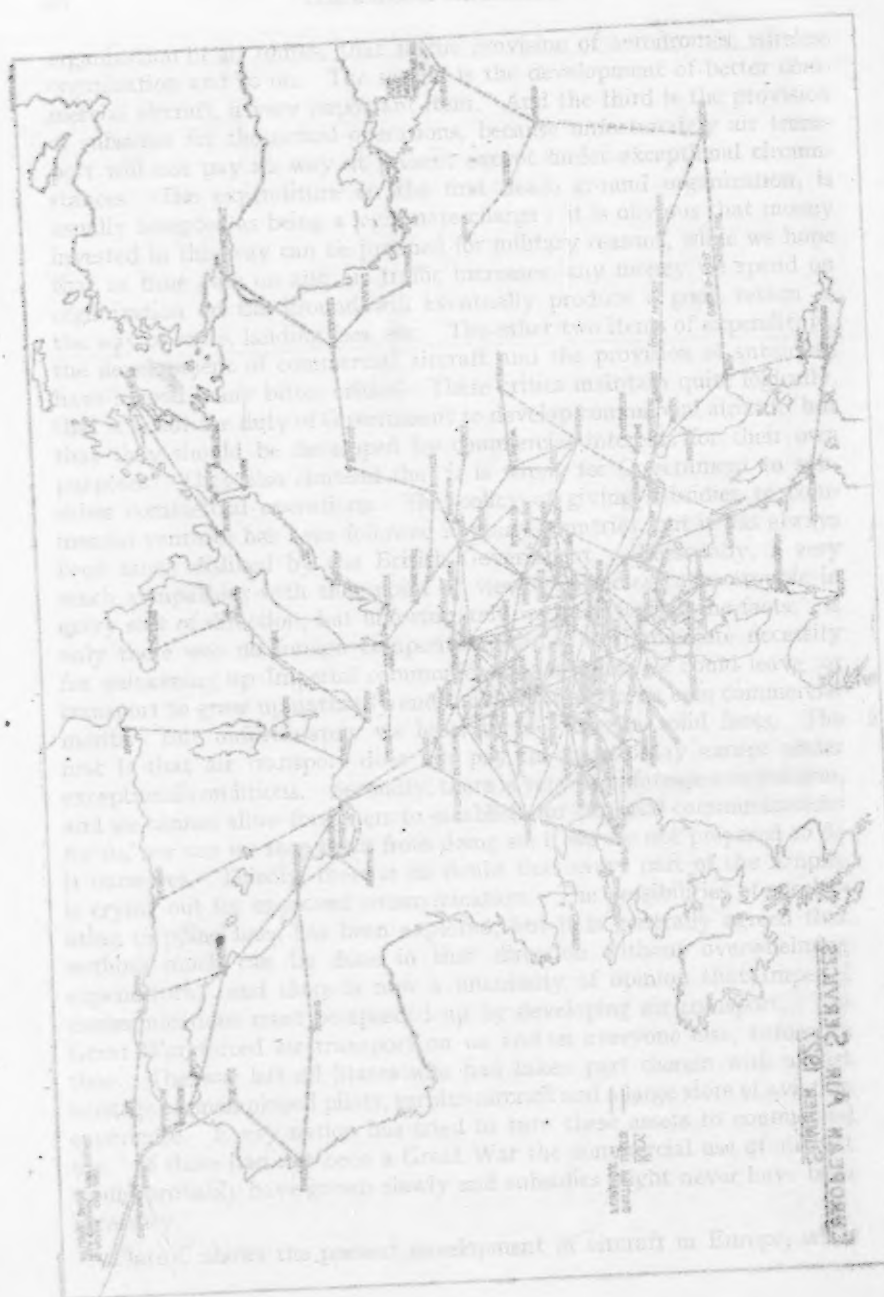


**EUROPEAN AIR SERVICES.**  
**SUMMER 1927.**





# TRANSNATIONAL AIR ROUTES



MAP C

CHARTER 1931  
TRANSNATIONAL AIR ROUTES

Table D shows how rapidly air transport is developing throughout the world.

TABLE D.  
STATISTICS OF REGULAR AIR TRANSPORT.

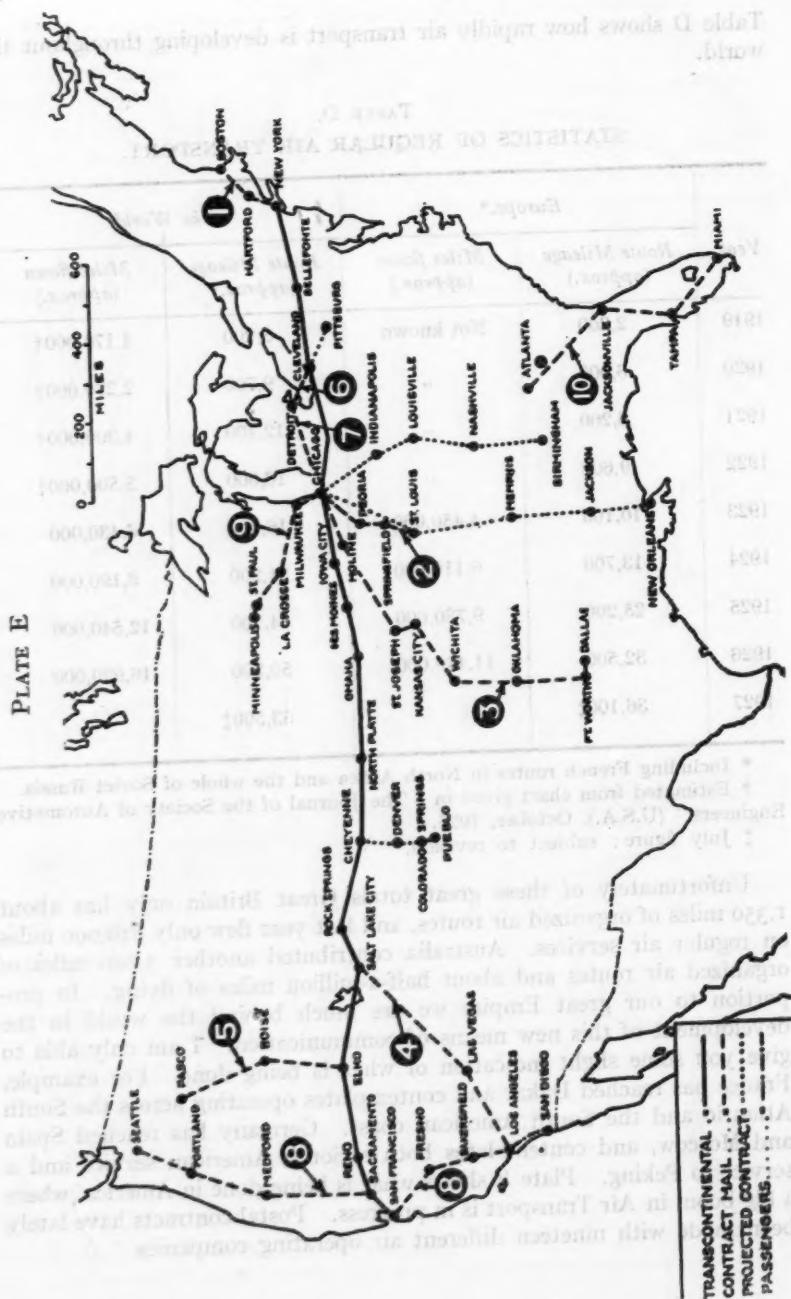
Year.	Europe.*		The World.	
	Route Mileage (approx.)	Miles flown (approx.)	Route Mileage (approx.)	Miles flown (approx.)
1919	2,200	Not known	3,200	1,170,000†
1920	6,000	„	9,700	2,270,000†
1921	6,200	„	12,400	4,300,000†
1922	9,600	„	16,000	5,500,000†
1923	10,100	4,450,000	16,100	6,430,000
1924	13,700	6,110,000	21,200	8,190,000
1925	25,200	9,780,000	34,700	12,540,000
1926	32,500	11,470,000	50,300	16,920,000
1927	36,100‡		53,500‡	

\* Including French routes in North Africa and the whole of Soviet Russia.

† Estimated from chart given in "The Journal of the Society of Automotive Engineers" (U.S.A.), October, 1925.

‡ July figure: subject to revision.

Unfortunately of these great totals Great Britain only has about 1,350 miles of organized air routes, and last year flew only 840,000 miles on regular air services. Australia contributed another 3,200 miles of organized air routes and about half-a-million miles of flying. In proportion to our great Empire we are much behind the world in the development of this new means of communication. I am only able to give you some slight indication of what is being done. For example, France has reached Dakar and contemplates operating across the South Atlantic and the South American coast. Germany has reached Spain and Moscow, and contemplates both a South American service and a service to Peking. Plate E shows what is being done in America, where a big boom in Air Transport is in progress. Postal contracts have lately been made with nineteen different air operating companies.



We cannot stand still, and therefore we must spend money on subsidies. We can never make air transport pay unless we develop better and better aircraft, one of our problems is how this should be done. It could be accomplished by giving heavier subsidies to operating companies and insisting that certain sums of money should be spent on experimental aircraft. Actually, the Government itself orders certain experimental aircraft, the results of which are placed at everybody's disposal, instead of being confined to that of one operating company. At the present moment we have four main experimental aircraft on order:

- (a) Two bi-metal flying boats of standard biplane construction with three air-cooled engines, carrying fourteen passengers ;
- (b) One all-metal monoplane seaplane with three air-cooled engines, specially designed for work on inland waters and for easy modification for work on land ;
- (c) One single-engined freighter, designed to carry at least 50 per cent. more paying load per horse power than any existing commercial aircraft, and specially adapted for the carriage of oil-drilling machinery ;
- (d) One small three-engined monoplane, specially designed for cheapness in operation, combined with great reliability and comfort.

Our latest commercial aircraft are remarkable for their reliability and high performance—but we still have much to learn in the development of the monoplane and of all-metal construction.

I need not harp on the great benefits reaped from Imperial air communications. Each Imperial Economic Conference has been perfectly agreed on that subject. Yet there is another aspect of the case. Ours is a small island and so we have no incentive to fly. We have very good railways, a bad climate, and short distances. Thus we have not the advantages of the big Continental countries, where there is an incentive to fly. But in the Empire we have the greatest incentive to fly that can be imagined. Thus, more than any nation, we must help the growth of this young industry—artificially if necessary.

Personally, I believe that the future will develop on much the same lines as have existed in the past with regard to the Royal Navy and the Mercantile Marine. The day is coming when air transport will pay its way—in fact in one or two places already in the United States it is paying its way. The moment the business men of the world are convinced that there will be money in it in the near future, a tremendous demand for commercial aircraft will develop. In the past we were absolutely supreme in the shipbuilding industry, and we know what that meant



to us, both during peace and in war. It is absolutely necessary for us now to be supreme in the aircraft building industry of the world. It is obvious that, when the great demand comes, the nation with most experience, with the most efficient commercial aircraft and the best pilots and crews, will reap a great reward and establish a great national industry. The demands of commercial aviation will be far greater than those of military aviation.

We have the material; our pilots and our mechanics cannot be rivalled; our designers and constructors have proved their value. This is shown by two outstanding achievements; one, our recent victory in the Schneider Cup at a speed which completely beat all world records; the other, the Imperial Airways service between Cairo and Basra, for ten months with complete reliability. Those two feats have not been approached by other nations, and we can materially improve on them in the future if we really support our aviation. The last twelve months has seen some wonderful performances in aviation. A German has remained for fifty odd hours in the air without landing; three Americans have flown over the Atlantic to Europe; heavier-than-air craft have achieved a speed of 300 miles an hour. Neither are these mere "stunts"; and in aviation what is a "stunt" to-day becomes a practical proposition to-morrow. Therefore I urge that we must be in the front rank in all matters connected with aviation. It will affect us more than any other nation. The introduction of aviation has been a distinct disadvantage to us in war. We have always been a defensive nation. Aviation is essentially a means of attack. It gives attackers powers which they never had before, because the Channel has been practically blotted out. Napoleon said that the offensive was to the defensive as three to one; that was for war on the ground. For war in the air I believe that the offensive will be to the defensive as nine to one. It gives the offensive greater power than it ever had before. That is the bad side of it. The good side of it is that commercial air transport can bring the scattered units of the Empire closer together and facilitate administration, co-operation and mutual understanding. It will be a wonderful means of consolidating our Empire and so to some extent of eliminating the military disadvantages of aviation to us as a nation.

#### DISCUSSION.

GENERAL SIR GEORGE ASTON: There are one or two points I should like to raise, the first being the importance of international obligations in connection with the British Empire. The second being the great span of that Empire and the consequent importance of aviation in connection with its future. Also I would like to raise the question of international agreements and international law. As far as I have been able to study the existing documents and agreements,

it seems to me to have been an extraordinary chance from our point of view that aviation developed during the Great War, in which a vast interest was taken in the land side of warfare. The result was the establishment of precedents in connection with internment that may have very far-reaching effects upon the British Empire. I understand that if a seaplane of any nature belonging to a belligerent alights in the harbour of a neutral country, that seaplane, if it is capable of being regarded as the equivalent of a war vessel, or if of any importance in connection with the conduct of warfare, will automatically be interned. I gather that there is no general world agreement on that subject. But, taking the Spanish-American War, as our illustration, it was found that every country proclaimed what laws it would enforce in regard to belligerents. The idea adopted by the British Empire, when she has been neutral, has been to enforce the rule of twenty-four hours' stay and then the vessel must go on to the nearest port. The mere fact that a boat flies into a harbour instead of swimming along the surface into the harbour means apparently that automatically she becomes interned. I take it that if the late war had been purely a sea war we might have had the same agreement all over the world,—that flying boats or flying ships, or whatever they might be, must leave after twenty-four hours. That has an important effect on the future.

As regards the gap between England and Cairo, following up this question of flying boats, I remember details were published about eighteen months ago concerning the experiment of these boats flying from Plymouth to Malta in order to avoid the difficulty of crossing neutral countries in time of war; another experiment is to be made with R.A.F. flying boats flying to Singapore. I should like to know how far it would be possible to develop such routes in time of war to avoid crossing the Continent, say, by going round to Gibraltar and Malta. Then we come to another very serious point, namely the recent action taken by Persia, which now blocks our route to India, because we are not allowed to use the Persian territory between Basra and Bunder Abbas. The alternative route *via* Arabia does not seem to be very hopeful, yet it appears most important that that gap should be bridged. Supposing it is not found possible to overcome these difficulties, is it possible, if the worst comes to the worst, to bridge the Persian Gulf with flying boats?

AIR VICE-MARSHAL SIR SEFTON BRANCKER, in reply, said: Sir George Aston has touched on a very delicate question. As a matter of fact I was not aware that in times of war a flying boat would be treated differently from a ship.

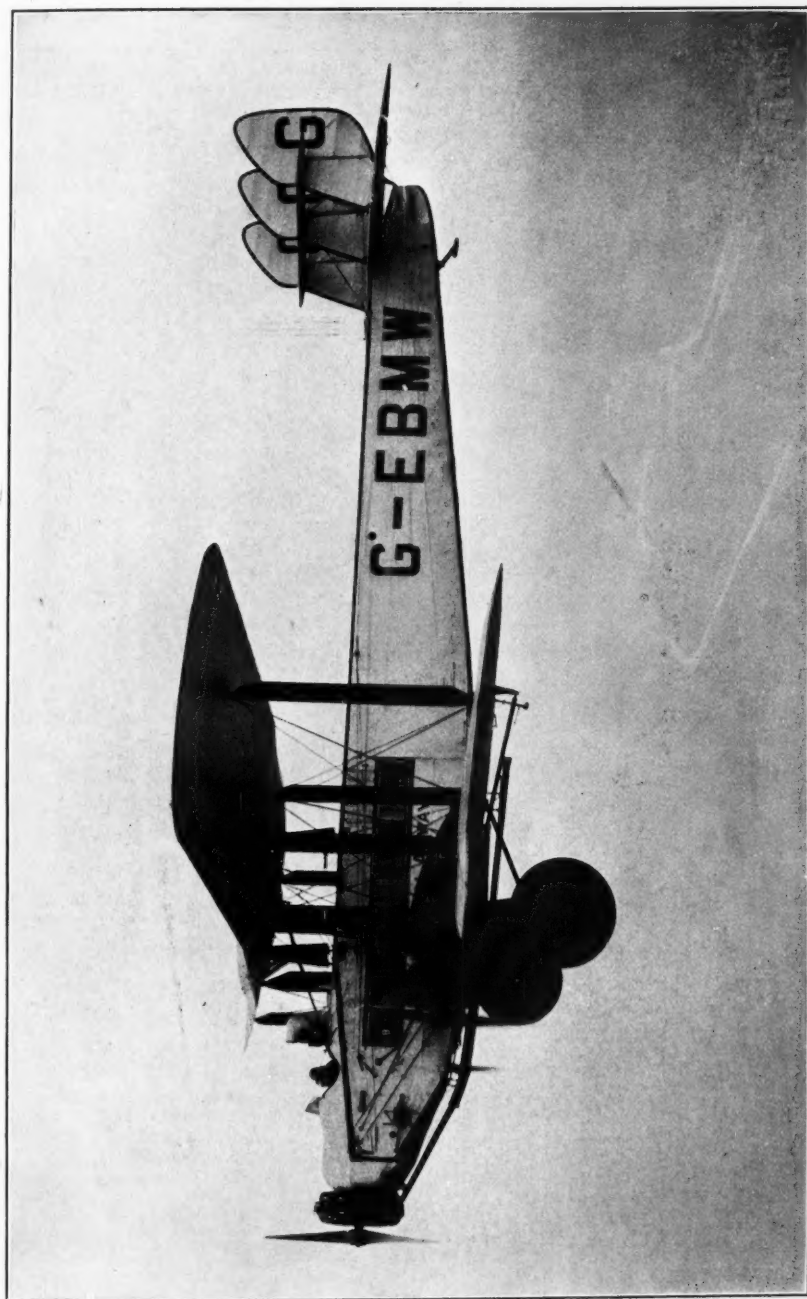
SIR GEORGE ASTON: I do not know how far it would apply to commercial aviation as well.

SIR SEFTON BRANCKER: It could not apply to commercial aircraft, I think. As far as the Persian Gulf goes, I am afraid flying boats would not help us, because the status of the flying boat and the aeroplane will be exactly the same. The aeroplane has to land on Persian territory and the flying boat equally would have to land within Persian waters, and I do not see how it would be possible to differentiate between the two. As regards the future, I am convinced that the growth of air transport will be very analogous to that of shipping. To-day there is a good deal of distrust and suspicion in a great many cases in regard to aviation on the part of people who do not understand it. They look upon air transport as a sort of military weapon, and the result is that there is a good deal of obstruction and *quid pro quo*, hence the trouble with regard to Persia. Eventually I think every nation will realise that it is not to its interests to obstruct but rather to encourage air transport, and that they will outvie one another in providing good

facilities in order to attract air transport, because a flourishing air port in the future will be just as valuable as a flourishing sea port to-day. I think the commercial side of air transport will grow up just as the commercial side of sea transport has grown up in the past.

THE CHAIRMAN: I would like to add a few words about commercial air transport, as I happen to be a Government Director of Imperial Airways. Our aim has been throughout to prove the safety and reliability of air travel. To a great extent we have proved these claims on what is considered to be one of the most difficult journeys in the world for aircraft, namely, that from London to Paris. We have done our work so successfully that we are practically getting the bulk of the business. The French are fully alive to it, and I think they are going to make strenuous efforts, with the aid of subsidies, to defeat us on that route. We are also facing competition from the Germans and the Dutch. Although we have had success on the short routes, there is no question about it that we shall never get lasting success until we stretch right out to the far distant parts of the Empire. The competition in Europe is becoming very strenuous. We have big subsidised concerns against us. Yet I think we can safely claim to have set an example to others for safety, reliability and economy of running. However, the time has not yet come when we can do without subsidies. The amount of traffic is increasing and it is bound to increase. Machines will become better and better, from the point of view both of safety and of economy. The prospects of running without subsidies within a reasonable period of time is far more hopeful on the long Imperial routes, i.e., England to Australia or the Cape, where Mail contracts can be obtained than on the short European routes. I feel certain the whole Empire will soon realise the extreme importance of rapid communications. Foreigners are doing their best to open our eyes in regard to the matter, and the sooner they are opened the better.

The customary votes of thanks to the Lecturer and the Chairman concluded the proceedings.

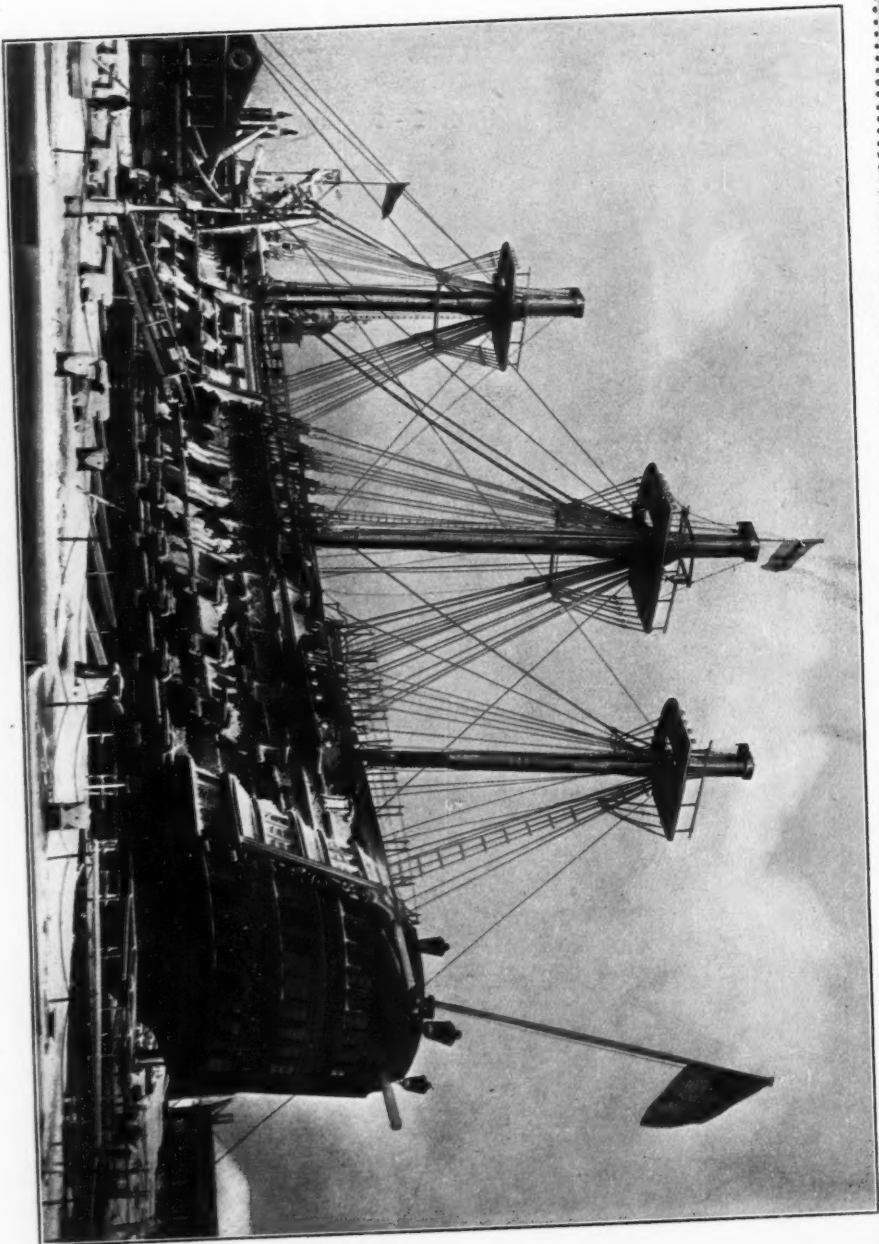


*From a Photograph supplied by the Air Ministry*

### **THE LATEST COMMERCIAL AEROPLANE**

**D.H. 66 ("HERCULES")**

AS USED BY IMPERIAL AIRWAYS, LTD. ON THE CAIRO-BASRA SERVICE



*From a Photograph by Stephen Cribb, Southsea*

**H.M.S. "VICTORY"**

**JANUARY, 1928**

**IN HER FINAL RESTING PLACE IN PORTSMOUTH DOCKYARD**

*(See Navy Notes)*



## NAVAL TRADITIONS

By ADMIRAL SIR RICHARD PHILLIMORE, K.C.B., K.C.M.G., M.V.O.

On Wednesday, 16th November, 1927, at 3 p.m.

ADMIRAL SIR H. H. BRUCE, K.C.B., M.V.O., Chairman of the Council,  
in the Chair.

THE CHAIRMAN, in introducing the lecturer, called attention to the fact that the atmosphere of the Lecture Hall had been rendered specially naval for this occasion by sea pictures and ship models. He added that he hoped the yarns and reminiscences of the gallant Admiral would stimulate the recollections and memories of the audience and that, during the subsequent discussion, some of them would try and "cap" some of those yarns.

### LECTURE

THE title of my paper is, I am afraid, rather a misnomer, but I am unable to suggest a better one, and the Council have kindly allowed me considerable latitude. It has been impossible to avoid a good deal of the personal element being largely composed of my father's experiences. He was for six years Flag Lieutenant to Sir William Parker, and as Sir William's naval career began with the *Glorious First of June*, and he had commanded a frigate under Nelson, besides being St. Vincent's nephew, my father naturally had many opportunities of hearing about "1800 and War Time."

My grandfather lived in Whitehall and there my father was born 105 years ago. His earliest recollection was seeing two long arms waving about on the roof of a house opposite his nursery windows. Later on he learnt that the house opposite was called the Admiralty and that the two long arms were the semaphore, by means of which the Admiralty sent messages down to the naval ports. You may remember that in one of Marryat's novels, the hero, having quarrelled with his uncle in the Admiralty, decided to drive "post" to Portsmouth and read his commission, before he could be superseded in the command of his ship. Once he had read his commission he could only be turned out by court martial, but until he had done so he was not recognized as being in command of a ship. To his great relief, when he stepped out into Whitehall, he noted that it was foggy, and that consequently the semaphore was not working.

The system of semaphore signalling was very good and attained such proficiency, that in 1807 a time signal was sent from London to Plymouth in three minutes. I think there were twenty-two stations. So we may look upon the present wireless masts on the Admiralty roof as the direct descendants of the semaphore of eighty years ago.

My father went to sea in 1837 as a College Volunteer from the Royal Naval College at Portsmouth. In those days young gentlemen who had naval nominations went to sea with the Admirals or Captains who had given them, but those who were nominated by the Admiralty did two years at the College at Portsmouth before going to sea. His first ship, the "North Star," was a "jackass" frigate and though only 505 tons carried the broad pendant of Commodore Lord John Hay in Command of the North Coast of Spain Station. In her little gunroom were eight Mates and four Midshipmen, the senior of the Mates having passed for Lieutenant no less than twelve years before.

Though the "North Star" was often moored within two cables of the shore, there was no leave to officers or men after sunset. Most of the Royal Marine Artillery then in the Service were borne on her books, though serving ashore with the British Legion supporting Queen Christina against the Carlists. Among the officers of those days were many who had entered from the Merchant Service, and who had acquired the art of never being drunk, and at the same, of never being quite sober. The master of the "North Star" worked his reckoning entirely by rule of thumb, and used to say to the College Volunteer, "I don't know what all your figures and diagrams mean, but you have got the right answer."

#### PROMOTION

I have said that the senior Mate was "twelve years passed" and this requires some explanation. In 1794 an Order in Council was brought out largely reducing the number of servants in the ships, and in lieu thereof filling up two-thirds of their number with boys. Of these boys, one-fifth were to be young gentlemen volunteers intended for Officers, who were not allowed to be entered before eleven years of age. Midshipmen who had passed their examinations remained as Midshipmen until promoted to the rank of Lieutenant, with the exception of a certain proportion who received Warrants from their Captains as Masters' Mates, which gave increase of pay and prize money. They did not, however, appear as Commissioned Officers.

Sir William Parker went to sea when he was eleven with the rating of Captain's Servant, which he held for thirteen months; he was a Midshipman, aged twelve, in the Battle of the First of June. He became an Acting Lieutenant at fifteen and was confirmed in that rank at

eighteen. Two months later he was an Acting Commander and in command of the "Volage," a 28-gun frigate. After a further six months he was confirmed as a Commander and was made a Post-Captain before he was twenty-one. Though Sir William Parker was made a Lieutenant at such an early age, he was not qualified to be confirmed in that rank, although he had been four years at sea counting his time as Captain's Servant. I doubt if any of the Lieutenants promoted in 1927 have been as many days at sea as young Parker was.

When Sir Reginald Custance's committee on naval education was sitting, before the war, I was discussing the question of early entry with Lord William Seymour, a general, who I knew had begun his career in our Service. He was very emphatic and said, "I didn't learn to command men in the Brigade of Guards, all I know I learnt when I was twelve years old as Midshipman of the 'Jolly Boat.'"

With regard to what we may now think were phenomenal promotions, it must be remembered that it did not always follow, as a matter of course, that acting commissions were confirmed. Young Parker it is true, went from Midshipman to Commander in three and a half years, getting his Commander's Commission at eighteen; but that was in the West Indies, a station where the toast in the Officers' Messes was, "A bloody war and a sickly season." Both meant promotion, and young Parker saw a great deal of the ravages of "Yellow Jack" during that period.

There were no commissions in general terms until a date long after 1815. All commissions and all promotions made were to hold a particular rank in a particular ship: so that an officer could not be promoted without being appointed to a ship at the same time.

Few of the present generation of Naval Officers realize that it is only in comparatively speaking recent years that the names of officers junior to Lieutenant have appeared in the Navy List. Sub-Lieutenants appear for the first time in December, 1861, when the seniority of the oldest was 1857; Midshipmen appeared first in June, 1871, when the seniority of the oldest was 1864, so that he had been a midshipman for seven years. Afterwards the Admiralty went to the opposite extreme and when I entered the "Britannia" all the names of my term appeared in the Navy List at once. This was, I think, quite unnecessary and the names of Dartmouth cadets do not appear now. Owing to subordinate officers' names not being found in the Navy List, when two ships met, prior to 1871, the gunrooms exchanged written lists of their members, which were signed by the senior member, and ship-visiting usually followed.

I wonder how a Sub-Lieutenant of the present day would like to visit all the ships in Portsmouth Harbour with his book of certificates, till he could find a Captain, who : (1) had a vacancy for a Sub-Lieutenant in his complement ; (2) was satisfied with the certificates produced. My old Captain, Sir John Fullerton, told me that he had that experience. Apparently the Admiralty did not appoint Sub-Lieutenants to ships, but Captains took them on as required. In fact you did not really count until you were a Lieutenant. It followed, that the old certificate, now I understand disrespectfully called a "flimsy," had a very considerable value.

Lord St. Vincent, you may remember, insisted on the hoisting of the colours in the morning being made a ceremony. To-day, in addition to the ensign, the jack (no longer the bowsprit jack) flies all day and every day, and considerable expense to the Crown must result from the great wear and tear of bunting in both jack and ensign. As many of you will remember, in this respect times have changed, and ship's husbandry must be lacking. Not so long ago this was not the case and woe betide the officer of the watch of the flagship if the Captain came on deck, when it was blowing and raining, and found that the large ensign had not been replaced by a smaller one, and the jack hauled down altogether. The other ships, of course, following the flagship's motions.

The jack was never hoisted twenty or thirty years ago when sails were loosed, when washed clothes or scrubbed hammocks were triced up, on general drill days before the close of the drill, or when at General Quarters.

Another half-forgotten order was that the forecastle sentry was always to unfix his bayonet when men went aloft.

In the late forties in the Mediterranean, it was the fashion to have black bowmen in cutters, who, whenever they tossed their oars, threw them across to each other, without dropping them. One seldom sees black men now in a ship's company in Home or Mediterranean waters.

At this time, in the Mediterranean, the gunroom dined at noon, the wardroom at 1 p.m. and the Admiral at 3. All fires were reported out at Evening Quarters, a very necessary precaution in wooden ships. It may scarcely be credited by the present generation of young officers that for the seven years in which Sir William Parker's Flag was flying in the Mediterranean, no officer of the Flagship ever smoked : this stipulation was made before each officer joined.

#### NAVAL UNIFORM

It is quite in accordance with our illogical English methods of procedure that the adoption of a uniform for naval officers should have



been proposed and put forward by a club, the Navy Club in 1745-46; the memorial to King George II representing that, "though England was so eminent in naval renown, she was the only Power in Europe that had not a naval uniform." The original wording of the Navy Club resolution was: "that a uniform or Marine Regimental Dress might hereafter be worn by the Sea Commission officers, meaning Captains and Lieutenants."

The Duke of Bedford was the First Lord of the Admiralty at the time and the King, who had greatly admired the Duchess's appearance riding in the Park, in a blue habit faced with white, selected those colours for the Navy. The only break in the use of the white was when red facings were reverted to for seven years. After 1795 epaulettes were very much the distinctive mark of the officer, and the single epaulette of the Lieutenant in 1812 gave rise to the expression "shipping the swab" with reference to promotion to that rank.

In early days and for long afterwards, the naval uniform did not widely differ, except in colour, from civilian dress and even in the XIXth century, the older type of naval officers disliked strict application of the uniform regulations as tending to make the Navy "like soldiers." A hundred years ago the uniform regulations did not lay down that the colour of the cocked hat was to be black, and an eccentric great-uncle of mine attended the Levée in a white one. He was naturally stopped when he produced a copy of the regulations and a tape measure to prove that his hat was uniform! This was the cause of the addition of the word "black" to the regulations. His eccentricities are remembered, but the reforms that he instituted are forgotten.

The men were only put into uniform in 1857, but petty officers' badges were introduced by Sir John Phillimore for his own ship's company in the "Thetis" in 1823. A small crown and anchor of silver, made at the Captain's expense, to be worn upon high days, and a white kerseymere for every day. This proved so successful that it was afterwards generally adopted in the Service.

To return to the Officers: In my first ship, the senior Midshipmen wore caps with "cheese-cutter" peaks, and the present shaped officers' cap was called a "promotion" cap. Caps were generally referred to as "hats" and I always wondered if that was a relic of the days when a hat was the naval head-dress. You will remember the verse:

"Off Cape de Gat, I lost my hat  
And where do you think I found it?  
At Port Mahon, under a stone,  
With all the lasses round it."



For many years, the orders with reference to buttons and buttonholes on the sleeve of the frock-coat were ignored, until the Admiralty called attention to them about 1885. The outfitters promptly charged 3s. more for each frock-coat, but when the buttons were taken off again, I think in 1891, the 3s. remained on.

The first naval officer, I ever saw wearing an aiguillette was the Flag-Lieutenant to the Japanese Admiral at Yokohama in 1881: we little thought then that we should copy them in that uniform.

There were no uniform great coats for officers until 1883 and I must say that I have always thought them unsuitable for running up and down ladders, and ship's work generally. There were no uniform gaiters in 1881, and in the "Inconstant" we cut up our main-top-mast stay-sail to make gaiters for the landing party when ordered from the Falkland Islands to the Cape during the Boer War. The landing party were also ordered to wear their boots during the passage; this being very irksome to the men in those days.

Mention of landing parties recalls that ninety years ago "Damn a horse's hind leg" was the commonest oath in the Navy, probably connected with the arduous but little-known transport service carried on off the coast of Spain by the ships working on the flank of Wellington's Army in the Peninsula.

The Admiral, Lord Clanwilliam, particularly disliked Midshipmen wearing sea-boots when scrubbing decks. I remember musketry parties going through the range in Singapore. We used to give the order "Halt; off boots." The men took off their boots and carried on without them, and then, just before we got into the town again, they put them on. We always wore our tail coats on Sundays and, if a Midshipman had lost his dirk, making him wear a Sea Service Cutlass over a tail coat appealed greatly to the Captain's Irish humour. Many of our officers wore tie pins in uniform, and the so-called "mainsail" tie was popular among the Midshipmen, as forty days and more at sea came rather hard upon the white shirts.

There was a curious garment in the 'eighties, a thick coat-frock for Midshipmen. Only once in the "Inconstant" was this garment worn and the experiment proved disastrous to the wearer. It was a cold winter's morning at Woosung and the Midshipman of the morning watch thought that the unused frock coat might be comfortable, so went on deck in it. When the Captain saw him, the Midshipman was asked what he was wearing and why he was wearing it. He explained that it was the uniform coat allowed for Midshipmen and that he was feeling cold: whereupon the Captain told him to run over the three mast-heads

three times. When he had done so, the Captain enquired if he was warm now, and, on hearing that he was, told him to take the coat off and never to wear it again.

There was no white uniform before 1890, and in China between 1881 and 1884, when not in company with the Flagship, one saw many varieties of white dress. Some officers had crepe frock coats, through which their braces were plainly visible: but most ships had plain white tunics, without any badges of rank, and white straw hats.

The old foul weather hat was smart, useful and distinctive. I never could understand why it was abolished, as its use was optional. It was a straw hat, with an oilskin cover and gold cockade at the side. Now we have nothing in harbour in wet weather between the sou'-wester and a sodden uniform cap. The seaman's black hat had been abolished before I came to sea.

Though there were gunnery and torpedo badges there were no badges for signalmen, stokers, or working idlers. Consequently our painter in the "Minotaur," a very smart fellow, always called himself Captain of the Fore Top when he went ashore.

Since the newspapers have taken to writing about "the handy man," the men have become less and less handy. For instance: in my father's days the Boatswain's Mate of the Watch used generally to be plaiting a straw hat: forty years after, our Boatswain's Mate of the Watch in the "Inconstant" used to be making caps or embroidering petty officers' badges. The modern Boatswain's Mate probably now makes nothing. Ready-made clothing has destroyed the individuality of the seaman. The alteration was bound to come, but it is regrettable.

The smart upper-yard man would wear his jumper cut down too low in front, his trousers tight at the knee, and bell-mouthed. He would often spend half-a-guinea in getting his silk handkerchief embroidered. Strict uniformity was lacking, but personality was there and a smart man aloft took great pride in his appearance ashore. This smartness was destroyed by Admirals and Captains who enjoined upon the officers of divisions strict compliance with the letter of the regulations, insisting on a uniform nine inches of depth to the collar, whether worn by a six-foot or a five-foot man, and so on. With all due deference to the Powers-that-be, I consider that the introduction of the present seaman's great coat by Commodore Logins' Committee was unnecessary and has saddled the Navy with an untidy garment, which fills First Lieutenants with despair as regards its stowage below. Medical statistics have proved the open collar of the seaman's jumper more healthy than the buttoned-up tunic of the Marine, but unfortunately the classes who wear dickie shirt-fronts are always increasing.

The abolition of cloth trousers in 1905 was far from popular with the older men, who appreciated their wearing qualities: although the youngsters welcomed an article less in their kit-bags. After all, the old boatmen on the *Hard* at Portsmouth wear cloth trousers and are under no compulsion to do so, therefore it would seem that they are an economic proposition.

The blue tunic, worn over a white drill frock, with cloth trousers and the whole crowned by a new straw hat, made the seaman look his very best at Sunday Divisions. The Imperial German Navy wore this dress long after we had given it up.

Such was the innate conservatism of the Navy that the permission to wear beards was looked upon with disapproval by many of the older officers who were wedded to whiskers and the "three-finger gangway."

#### RANK AND COMMAND

It is generally accepted that the word Admiral, spelt Ammiral (as in Milton's "*Paradise Lost*"), is merely a corruption of Amir, and comes from the Arabic. The first mention of an English Admiral occurs in 1297, when there was no English Fleet: the tendency of a certain school of thought in the present day would appear to be in favour of reproducing this situation. Some writers affirm that the first English Admiral was not appointed till 1387 but above him was the "King's Lieutenant on the seas," this being of course the correct meaning of Lieutenant, i.e., the King's Substitute. Originally there was only one Lieutenant in each ship, the Captain's Substitute.

Before Trafalgar there were Vice-Admirals and Rear-Admirals of the Red, White and Blue, but only Admirals of the White and Admirals of the Blue. In the naval promotion of 1805 the rank of Admiral of the Red was restored to the Navy; it had been discontinued since the Union with Scotland in 1707.

With the passing of masts and yards has disappeared the pretty custom of hoisting the jib, when saluting an Admiral.

The rights and privileges of flagships have always, I presume, been discussed in the Sea Service, the point of view depending entirely on whether the speaker was serving in a flagship or a private ship. Lord St. Vincent held strong views on the right of the flagship to the majority of the promotions. In 1804, he writes: "I shall never ask their Lordships to promote, but if some of the Lieutenants in this ship are not made Commanders, it is impossible that the example set in her should be maintained."

The Trafalgar promotions are interesting :

Promoted to Post Captain	{	The "Victory's" First Lieutenant and the First Lieutenants (acting as Captains) of the "Ajax" and "Thunderer" and also the First Lieutenants of the "Mars" and "Bellerophon" whose Captains were killed.
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They were all made Captains straight away without being Commanders.

Promoted to Commander	{	The "Victory's" Second, Third and Fourth Lieutenants, "Royal Sovereign's" First, and Second Lieutenants and the First Lieutenants of all the other ships engaged.
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Promoted to Lieutenant	{	Four Midshipmen from "Victory." Three Midshipmen from "Royal Sovereign." Two Midshipmen from "Britannia." One Midshipman from every other Ship of the line and Frigate present in the action.
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So that you see in those days there is no doubt about the flagship getting its full share of the plums.

In James's Naval History, if the First Lieutenants' names are given as well as the Captains, in a list of the fleet, it may generally be assumed that the ships in question were commanded by members of Parliament. In those bad old days, politicians were not always quite honest ! If ships were commanded by M.P's, they were kept handy at home, if their Captains supported the Government. If the Captains were opposition M.P's, the ships were sent to a foreign station, where the votes could not count.

Until 1910, it was laid down in the King's Regulations that, if five or more ships were present with the Flag, the Commanders and Lieutenants of the flagship took rank and command of all other Commanders and Lieutenants of the squadron, when on detached service.

The title of Captain requires no explanation, but from very early times there appear to have been difficulties in designating the Captains of the smaller ships. At various dates we read of "Sub-Captains" and "Under-Captains"; then we come to Commanders and Masters; later on to Masters and Commanders.

In 1794 "Master" was dropped and the rank became Commander. Commanders at first were always Captains of their own ships and the change to second-in-command was made, first, in four Mediterranean battleships, in which however, they had to keep the morning watch at sea.



Nothing appears to me to have altered so much as the status of the Commander. I think I am correct in saying, that in 1888 there were only four Commanders in Portsmouth Harbour; in the "Duke of Wellington," "Asia," "Excellent" and "Vernon."

Until 1914 Lieutenant-Commander was a non-substantive, self-explanatory title. As a substantive rank it cannot be said to have any particular meaning, while its many hyphenated prefixes make one wish for the simpler form of address of an earlier day: when we read of "Mr. Anson, the Commodore," "Mr. Wolfe, the General," and so on.

#### MANNING THE NAVY

Before 1852, there was no continuous service in the Navy, and the procedure followed by a Captain ordered to commission a ship was to send a Lieutenant down to the port, who established a rendezvous (generally a public house) and issued posters calling attention to the merits of the Captain and the excellent station to which the ship was going. A popular Captain would get a ship's company together quickly, and the reverse would naturally happen in the case of a Captain with a bad name. Occasions were not unknown when their Lordships appointed a popular man to commission a ship, and relieved him before sailing by another.

Naturally the chance of Prize-money greatly affected the manning of a ship. Lord Cochrane was appointed to the "Pallas" at Plymouth, from the "Arab," a wretched ship in which he had been able to do nothing: consequently he had, for the only time in his career, to resort to impressment to man his new ship. Far different was the case two months later, when he brought the "Pallas" in over the Devil's Bridge at high water, with three shining golden candlesticks lashed to his mast-heads, church plate captured from a Spanish prize. He then had so many volunteers that he could have manned the "Pallas" three times over.

Not only were there delays in getting men on commissioning, but the ship herself had usually to be fitted out after being "laid up in ordinary." For instance, when the "Hibernia" was selected for flagship in the Mediterranean in 1845, her hull had not been examined for thirty years, during which time she had been laid up. It is not surprising therefore that, though she commissioned in February, she did not sail for her station till late in July.

It is a hundred and thirty years since the Mutiny at Spithead and the requests then put forward by the men now appear very reasonable. The so-called "Purser's Pound" must have been particularly galling involving as it did the loss of two ounces in every pound of provisions



(the purser's pound was 14 oz. instead of 16 oz.): but the Purser was expected to live off his "eights" and this was typical of all the petty economies of the Service. At one time, sails like the royals and spanker were not allowed and had to be "made" out of other stores, while the allowance of sea-store rope was ludicrous. For instance a 44-gun frigate, cruising more or less continuously and generally "on a wind," was allowed four coils of sea-store rope. At the same time an East Indiaman, working in fine weather and with every incentive to avoid expense, was allowed fifty-five coils.

In the old wars, impressment was naturally resorted to, and, though often abused, was, in theory, the legal and reasonable method of summoning all the seafaring population for the defence of the realm. This was quite understood, and no complaint was made of impressment during either the Mutiny at the Nore, or the Mutiny at Spithead. At the outbreak of war in 1794, there were twenty-nine Captains and fifty-four Lieutenants employed on the Impress Service.

Some years ago the Superintendent of Compasses at Deptford told me that his father, a small farmer in Kent, was returning from a market with several other farmers in the same cart when they were stopped by the press-gang, who took every man except the driver. They spent the night on board the tender to the guardship at the Nore, and next morning were taken on board her. When it was discovered that his father was not a seaman, they made him a marine! The marine lost his eye in the first engagement and was invalided out of the Service, but his son was sent to the Greenwich School and in process of time became a Master and retired as a Captain.

One of my Captains, Russell Pasley, had been Flag Lieutenant to Johnnie Kingcombe, when Commander-in-Chief in the Pacific. Kingcombe had come in through the hawse-pipe and was given to going aloft, on occasion, after dinner, "to show the main-top-men how to reef." This was greatly disliked by his long-legged Flag Lieutenant, who had to go aloft with the Admiral to see that he did not come down with a run.

To return to the manning of the Navy. The Service owes a great debt to Sir William Parker, who in 1852, on hauling down his flag as Commander-in-Chief Mediterranean, was appointed Chairman of a Committee to inquire into the subject. It is thanks to that Committee's Report that we have continuous service to-day. When the Russian War broke out, we had 7,000 seamen entered for continuous service and for the first time in our naval annals, the fleet was manned without bounty and without impressment at the commencement of a great war.

## MESSING

The subject of messing must always be intimately connected with manning, so no apology will be made for referring to it. In 1823, the allowance of rum for each man was half a pint a day, which was, undoubtedly, excessive. In that year, Sir John Phillimore obtained the Admiralty's permission to try half that allowance with the ship's company in the "Thetis," though some of the older officers in the Service predicted that it would cause a mutiny. He first got the Petty Officers to volunteer to try the gill of rum instead of the half pint, an allowance of tea and sugar being issued in lieu of the afternoon's grog, and the sum of 3s. a month being added to their pay. The Petty Officers' example induced the rest of the ship's company to follow. At the end of the year the Captain reported that the trial was eminently successful, and the ship's company happy and contented. In July, 1924, the diminished allowance became general throughout the Service. The Ship was, however, nick-named "The Tea-chest" and her liberty men were often attacked by those of other ships when on shore.

As contrasted with the present generous allowances, the victualling of forty-five years ago sounds meagre, but the men were fit and active. Breakfast at about 5.30 a.m. in harbour, and 6.30 a.m. at sea, consisted of cocoa and biscuit; supper at an hour varying from 3.30 p.m. to 5 p.m. consisted of tea and biscuit. Dinner was of course more substantial with pork and pea soup or beef and suet pudding or "Fanny Adams," preserved potatoes and biscuit. There was no late supper and "stand easy" at 8.15 came in about 1882 and was at first unauthorised.

There was much jeering on the mess deck of the "Goliath" in 1903, when the Boatswain's Mate passed the word for the first time, "a hand of the mess for jam."

In 1892, Captain Karlake of the "Edinburgh" told me that he and another Midshipman had been put in the marines' mess by their Captain for a month as a punishment. This, I fancy, was an old punishment. Writing in 1824, a Captain explains that in his ship, "among my punishments was a drunken, a dirty, a blackguard and a thieves' mess. Instead of being numbered, they were called by these names at the grog tub, the cook's coppers, etc. Experience showed me that a decree placing a man in one of these messes for a given time, on account of his misconduct, had more effect than corporal punishment. The first day of the month produced pretty constant application to be allowed to return to their mess again."

In the Flying Squadron, we had mighty little to eat and as Midshipman of the "blood boat," I took care to get the kidneys from the beef

Contractor for myself, while my boat's crew secured the heart. The Midshipman of the steward's boat always laid the Admiral's and Wardroom's stewards under contribution for grapes and other fruit.

We, who live in more luxurious days, would be squeamish at getting water out of the chain locker, but the following are extracts from the "Volage's" log in 1799: "Put the ship's company on an allowance of 3 pints a day, including allowance for their cocoa and grog." Then later: "Roused the best bower cable up to pump off the water. On the starboard side found only 7 hogsheads of water under the cable and 2 on the larboard side."

The present general messing is really wonderfully good, but there is a reverse to every shield, and whereas the bluejacket was always a cook of sorts, now many of the men know nothing about it and are helpless on detached service unless there is a small-craftman among them to cook.

#### THE SAILING NAVY

It is probably difficult for the younger generation to realize how much the life of the Navy was centred in drill aloft. Our seamanship had carried us triumphantly through the great wars of the XVIIIth century and sail and spar drill survived in the XIXth, long after steam had taken the place of sail. The fierce rivalry of ship against ship in the harbour evolutions twice a day, the weekly general exercise on Monday, the drill after Evening Quarters at sea, keeping station under sail, with all the pride engendered by being able to give another ship royals or perhaps a mainsail: all these can only be realized by those who took part in them.

His upper-yard-men were the apple of his eye to the Commander or First Lieutenant. Did not promotion depend upon them? I remember as Midshipman of the fore cross-trees in "Inconstant" that we had seven leading seamen on the top-gallant yard; four in one watch and three in the other.

It is curious to think of the top screens, which were rigged as quickly as possible by the top rifleman, to give the outward and visible sign of the ship having obeyed the signal to exercise General Quarters.

First-class petty officers were not so rated: they were captains of the forecastle, fore, or main top, boatswain's mate, quarter-master or coxswain of the launch. Second-class rates were captains of the mizzen top, second captain of the main top, coxswain of the cutter, and so on. I used to think that captain of the knight heads must have come straight on from the Crusades.

Liberty-men of the present day are very different from those of twenty or thirty years ago, but even sixty years ago they could keep sober enough if serious business was on hand. In 1864, during the attack on the Gate Pah in the New Zealand War, Captain Hamilton of the "Esk" was killed, and one of the New Zealand papers published an untrue account of the fighting, in which the Captain's death was attributed to his men having run away. On the next occasion of general leave being given, the "Esk's" liberty men broke into a ship-chandler's store and took out the largest rope they could find in it. They then marched up to the printing house of the offending paper and sent two of the petty officers inside to see the Editor, and to demand the immediate printing of an apology. This request was refused. Whereupon the liberty-men rove their hawser in at the left-hand window of the first floor, brought it out of the right-hand window, and belayed the end to a convenient tree. They then manned the hauling part, the boat-swain's mate piped "haul taut" and a final ultimatum was delivered "unless you turn to at once, and print and publish an apology, the front of your house comes out." Thoroughly alarmed, the Editor made haste to get the apology printed, but the liberty-men continued to man the hawser until the apology had been issued. The hawser was then unrove, returned to the ship-chandler's store and a sum of money left to repair the damage done when the store was broken open.

Though I hold the old-fashioned belief that the more the Navy keeps out of the Press the better, occasions have arisen when Press action has been very beneficial. In 1865, Captain Charles Wake of the paddle sloop "Bull-dog,"<sup>1</sup> after fighting a gallant and most determined action in the West Indies against ships and forts of the Republic of Hayti, had set fire to and abandoned his ship, then ashore on a reef. He was tried by court martial, and severely reprimanded; but *Punch*, interpreting as usual popular feeling, came out with a full-page picture and some rousing verses about British Bull-dogs, concluding with the four lines:—

"Then here's three cheers for Captain Wake; and while we  
sail the sea,  
May British Bull-dogs always find Captains as stout as he,  
That's all for biting when they bite, and none for bark and brag,  
And thinks less about court-martials than the honour of the flag."

The gallant Captain reached Flag rank and the time-honoured name of Wake is still in the Service.

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<sup>1</sup> The figure-head of this ship is now at the entrance to the Royal United Service Museum.



## THE ROYAL MARINES

Ever since the Mutiny at the Nore the Royal Marines have been berthed between the officers and the ship's company. When the officers were moved forward, in Lord Fisher's time, the Marines moved also, and they shifted aft again when the officers did so. Like the Navy in general, the Marines are now "cut to the bone." I have even met one or two, presumably educated, men who have asked "why shouldn't the Marines be abolished": so ignorant of history and impatient of tradition are some Englishmen. Yet, at various times the Government of the Day, who probably have been insisting on reductions in the strength, think nothing of asking for a thousand Marines for Constantinople or a battalion for Shanghai, and so on. The Marines stand for Drill, Discipline and Duty: three words which are not over-popular at the present time. They are, in Lord St. Vincent's famous phrase—the Sheet Anchor of the Country, but they commit the cardinal crime of not advertising themselves. Nevertheless, writers of history accord them their proper place, and in the first volume of his monumental work on the British Army, Fortescue sums them up in three lines. "Marines, a corps which, despite brilliant and incessant service by sea and land in all parts of the world, still contents itself with the outward record of a single name—Gibraltar."

## THE NAVAL AIR SERVICE

I regret that I must end on a discordant note. Some of us when we read of the cruise of the Flying Boats to Australia feel that here is another Service doing what is plainly the Navy's work. It is no use regretting the lamentable lack of vision that allowed the Naval Air Service to be abolished, we must work to get it back. Nelson bemoaned his lack of frigates, but what would he have thought if they had been manned by another Service?

In accordance with all naval tradition it is the duty of the Navy to obtain and to keep the command of the sea in war; whether that involves fighting on the water, under the water or in the air, the duty remains that of the Navy.

## DISCUSSION.

There was no discussion, but in response to the invitation of the Chairman a number of Flag and other naval officers recounted some of their recollections and experiences. It is regretted that space prevents these being recorded in the JOURNAL.

The meeting terminated with the usual acknowledgments to the Lecturer and Chairman.



## THE CARDWELL SYSTEM

By LIEUTENANT-GENERAL SIR E. A. ALTHAM, K.C.B., K.C.I.E., C.M.G.

NOT a few writers, both in this JOURNAL and elsewhere, have suggested that "the Cardwell System" must shortly be abandoned. These critics appear to have attacked only one of the great principles of that system, namely, that of regimental localisation, while remaining largely silent as to the rest. It seems, therefore, necessary before joining issue with such writers, to review briefly the reforms of Cardwell which up to the present date have held good in principle and still constitute the foundations of our entire Army system. For, having in mind that to Lord Cardwell the Service owes more than to any other statesman, we must take into consideration the breadth, scope and wisdom of his work as a whole, before we condemn it—for the alleged shortcomings of one of its parts.

When Cardwell first came to the old War Office in Pall Mall, he there found only the administrative machinery of the command of the Army. The Commander-in-Chief ruled at the Horse Guards with his Adjutant-General, Quartermaster-General and Military Secretary, and was only approachable from Pall Mall by formal official letter.

Of the regular troops, the greater portion of the cavalry and infantry were stationed abroad, dotted about the world, with but little regard to strategic principles or to local defence requirements. Service with the Colours had been modified from life to ten years, but except for the Militia and Volunteer Force, the reserve behind the Regular Army was no more than 3,000 men. There was no higher tactical organization than the regiment; most of the infantry regiments had but one battalion. The appointment and promotion of officers both in cavalry and infantry was by purchase. A Royal Commission had reported that we were living from hand to mouth as regards our military liabilities, with no forethought whatever for the morrow.

Cardwell took in hand two great problems:—

- (1) The unification and readjustment of the machinery for the command and administration of the Military Forces of the Crown;
- (2) The readjustment of those Forces to their war liabilities.

The first problem was solved by three great measures of reform:—

(i) The unification of command and administration by the subjection of the Commander-in-Chief to the authority of the Secretary of State and the transfer of his office from the Horse Guards to Pall Mall.

(ii) The organization of the War Office thus unified into three departments :

(a) The Commander-in-Chief's, dealing with all questions of personnel, including command, training, discipline, interior economy and recruiting ;

(b) The Surveyor-General of Ordnance's, to deal with materiel ;

(c) The Financial Secretary's, for all financial matters.

(iii) The strengthening of the Department of the Commander-in-Chief by the addition of two new branches, Military Intelligence and Military Education, branches which after thirty years of steady growth developed into our modern General Staff.

The second reform similarly aimed at and attained three great objectives :—

(i) The abolition of purchase ; an essential to the later development of the principle of selection ;

(ii) The creation of an Army Reserve ; a task greatly complicated by the Government's pledges of financial retrenchment. This difficulty Cardwell overcame by masterly statesmanship and administrative foresight, his resultant plan being based on :—

(a) The doctrine that colonial self-government carried with it responsibility for local self-defence. By getting this accepted the Imperial Government was not only relieved of substantial charges for local defence, but also enabled to recall home a number of battalions. Thus, although in 1868 there were only 47 battalions at home and 94 abroad, by 1872 the number at home was 70, abroad 71.

(b) The substitution for long service of an engagement for twelve years, six with the Colours and six with the Army Reserve, thus effecting a substantial economy in the pension list.

(c) A reduction of the establishments of the home battalions to figures adequate for expansion to war strength by the addition of Reservists.

(iii) A system of consolidating the Forces, which, in Cardwell's own words to Parliament in 1871, was intended "To fuse together

the regular and reserve forces . . . to brigade them together . . . to unite all the voluntary forces of the country into one defensive army with power to supplement by compulsion in case of emergency; all to be under the General Officer Commanding in the districts, subordinate to one Commander-in-Chief, who will act with the approval of the Secretary of State."

About a year later a memorandum signed by the Commander-in-Chief was published, giving the outlines of this new plan of unification. A further report of a Committee, known as the Macdougall Committee<sup>1</sup> elaborated the details of the great plan.

The infantry of the line at this date consisted of 110 regiments, of which the first 25 had two battalions, the 60th and Rifle Brigade four each, and the remaining 83 regiments only one, making in all 141 battalions.

The British Isles were now to be divided into sixty-six districts. Each was to receive two regular battalions, one of which, under normal peace conditions being at home the other abroad. The district also included two militia battalions and all local volunteers. The home regular battalion was not tied to the district as regards its station, but both home and foreign battalions, were each to detail two companies to form a "depot" in the district, the C.O. of which should be responsible for the administrative command and inspection of the Militia, Volunteers and any Reserves in his area, and for all recruiting.<sup>2</sup>

This unification of Regulars, Militia and Volunteers formed in fact the foundation on which, thirty years later, Mr. Haldane was to found his scheme of Army reform and a Territorial Army, whilst fusing the Militia with the Regulars by converting them into a "Special Reserve." It is, too, noteworthy that Cardwell had a wider outlook than merely home defence. His standard was a potential expeditionary force of two Army Corps, each of 30,000 men and behind these corps a home defence Army of 300,000 Militia, Yeomanry and Volunteers.

Two points of detail remain to be mentioned. The fusion into one of the two single battalion regiments linked together under the Cardwell plan was not actually effected till 1881, and then by Mr. Childers. That change caused at the time a full tide of execration, but there is probably now not a serving soldier, who would wish the linked battalions divorced.

The second point is more important. It was laid down very definitely by the "Localisation" Committee that if circumstances should at any

<sup>1</sup> Lord Wolseley (then Sir Garnet Wolseley, and an A.A.G. at Army Headquarters), was a member of the Committee.

<sup>2</sup> The 60th Rifles and Rifle Brigade as well as the Guards were left outside this territorial organization.

time necessitate both the regular battalions of a regiment being abroad simultaneously, the depot should be expanded to the strength of a battalion. This recommendation, however, was, for reasons of economy, ignored. Had it been given effect to, recent suggestions that the Cardwell system had "broken down," would not have been made.

Cardwell and his advisers were never so short sighted as to conceive that the battalions abroad and at home would always balance, or that the battalions of the line would for all time remain at the fixed figure of 141. The remedy they suggested for any temporary upset of the balance was indeed rejected by their successors, and that probably unwisely. But other remedies were utilised to meet the constantly increasing calls on the Regular Army, which are so marked a feature of the forty years (1874-1914) that followed Cardwell's period of office, and it may be confidently asserted that far from any break down, each successive call found a progressive increase in the fighting efficiency of the land forces of the Crown and in their adaptability to Imperial requirements.

What then are the real benefits we have derived from Lord Cardwell's reforms? To take regiments first. They have acquired a permanent home, in which the soldier starts his service and to which he returns on its completion. The individual Scotsman, Midlander or Devonian whenever he visits his regimental area, figures not merely as a soldier but as a representative of the local regiment, in which the whole population can justly take pride and in whose welfare they all feel personal interest. The benefits accruing to Regiments during the Great War from their identification with territorial areas were very generous, very real, and very precious, as was amply demonstrated right down to its close. Before and since the war the local pride in the old regimental Colours, the support given to Regimental Associations, the welcome always forthcoming to parades of old soldiers, the respect and care shown to Regimental Memorials, the real desire, to find employment for the time-expired County soldier, all tell the same tale.

If we turn to the Territorial Force, ex-Commanding Officers of the old Volunteer battalions will emphatically testify to the increase in efficiency which those units acquired by their association with Regular troops. The tightening of this bond effected by Mr. Haldane by the addition of Brigade and Divisional Staffs of Regular officers, as well as by the higher organization of the new Force, resulted almost immediately in a further increase of efficiency.

The link thus forged has been greatly strengthened by the splendid services of the Territorial battalions during the Great War. Regarded with real pride by all ranks of Territorials, that tie has become a real



spiritual force. But the continuance of that spiritual force for both Regulars and Territorials depends on the maintenance of the localisation of Regiments.

Such being the advantages of localisation, it is all the more amazing that there should be found extremists who, not content with pressing for its abolition, suggest in all seriousness that the Regiments themselves should be swept away wholesale, and replaced by a new corps of "land marines." Strong though the discipline of the British Army is, a proposal of this kind would cause very sore hearts, even indignation in all ranks of the line. It is certain, too, that it would meet with determined opposition from the civilian communities of the Territorial areas concerned.

Yet it has to be accepted wholeheartedly by all loyal folk, whether soldiers or civilians, that regiments exist for the Army, not the Army for regiments, and that no part of the Army organization is so sacrosanct as to be exempt from periodic testing as to its suitability or adaptability to modern requirements. While therefore it is wholly unjustifiable to assume without proof that the localisation principle and the regimental system must be scrapped ruthlessly in the near future, it is clearly necessary that they should be examined, in common with our entire Army organization, as to their adaptability to present day strategic needs and to future tactical developments, so far as these can be envisaged.

As to the first, it is well known that from the initiation of the Cardwell reforms up to the commencement of the decade immediately preceding the Great War, the war liabilities of this country were classified in the mind of the highest authorities as (i) Home Defence; (ii) Small Wars; and (iii) Defence of India's N.W. Frontier. Any discussion of the possibility of British troops being again employed on the Continent of Europe was tabooed politically and could not therefore be considered by the responsible military authorities.

But before the Great War this taboo was removed and the B.E.F. was organized for service on the Continent. The present Continental obligations under treaties and pacts are well known and may be increased by further pacts. The Iraq and Palestine mandates, as well as the militant communism of Russia, seem to have for the time augmented our "small war" liabilities. This apparent increase in our liabilities does give cause for thought as to the sufficiency of our military strength, yet in their general nature such liabilities do not appear to differ from those existing before the Great War, nor to call for any material change in our Army organization.

The South African War and the Great War showed how efficiently the Cardwell system could work when tested by mobilization. For the



despatch overseas of a small force without mobilization it is true, no doubt, that certain difficulties arose in the past. The Army Book of the British Empire records<sup>1</sup> that the arrangements existing in 1893 for such an emergency contemplated the embarkation of a force of 26,000, the infantry battalions composing it being reduced to a lower establishment by the elimination of men under a year's service. It is noteworthy that the force sent last year to China was approximately the size of the force projected thirty-five years ago, but strengthened in numbers and fighting efficiency by the addition of Class A Reservists. The Cardwell system does, therefore, not appear to have developed any insurmountable difficulties as regards expeditionary forces of this size.

It is fair, however, to admit that the recent condemnation of the system is based mainly on its alleged incompatibility with the mechanization of the Army. I write "alleged" purposely, as it is obviously premature to assert that our infantry regimental organization is incompatible with mechanization until the fighting framework of mechanized units has been definitely determined. At present mechanization is merely in the experimental stage, so much so indeed that even the critics who condemn our present organization are divided as to what is to be put in its place. Some elect for "land marines"; others confidently foresee that anything resembling a cavalry or infantry unit will be wiped out and that only machine guns manned by "robots" will be left. These prophecies may or may not prove true, yet, for the moment, they seem pictures somewhat film-like in their imaginative construction and emotional realism.

In all processes of military re-organization one principle can be relied on as never varying, the principle of the delegation of command and responsibility. It matters not, whether knights in armour, unprotected infantry or robots in armour are to fight in future wars, they must be controlled by a chain of command and for such control the organization of fighting men into fighting units is essential. In other words, battalions (or some analogous unit under another name) must continue to exist. That is our first basic fact, and the second basic fact may be found in the unavoidable obligation of the British Army, whether mechanized or not, to find over-sea peace garrisons.

These two facts bring us at once back to the old problem solved by the Cardwell scheme. "Oh, no!" say the critics, "you forget that India will not look at mechanization and insists on sticking to old ways." But is that so? Is the mission of the Secretary of State and of the General Staff to India doomed to failure? India is naturally reluctant

<sup>1</sup> V. pp. 116 to 561. It would be of value to both soldiers and civilians if the War Office would bring that excellent volume up to date.

to risk her money on experiments, which the Home Government is conducting for her. In military organization and equipment she is, generally, behind the Home Army; but not always, for at times, e.g., in staff work, she has been a bit in front. Yet during the war it was accepted as a basic principle by the Government of India that the organization, equipment and training of the Indian Army must be such as to enable it to shoulder its full share of the defence of the Empire overseas, as well as in India. If this principle still holds good, and should the Home authorities decide on Army mechanization, India will follow suit, as soon as financial considerations permit. Mechanized battalions in India, as well as at other stations oversea, will balance mechanized battalions at home, their establishments being adjusted, of course, to suit tactical needs, and the number of units maintained at home and abroad being similarly adjusted to meet strategic liabilities.

Further, as regards the present incorporation of home and foreign Regular battalions with the Territorial battalions into one Regiment, if, as must be presumed, the mechanization of the Territorial Army will inevitably follow that of the Regulars, it will be more than ever essential to the fighting efficiency of the former that the closest touch should be maintained between the two. To lose that spiritual force, by wrenching Territorials and Regulars asunder at the moment when the Territorial most needs the help and experience of the Regular would be a blunder of the first magnitude.

I submit therefore three conclusions :—

- (a) That the principles established by the Cardwell reforms, especially those of the localisation of Regular Regiments and the fusion with them of the Infantry of the Auxiliary Forces, have been and still are of great benefit to the whole Army ;
- (b) That, so far as the experiments in mechanization have gone, it has not been proved that that change will necessitate the abolition of Regiments or their separation from localities, or the divorce of Regular from Territorial battalions.
- (c) That, unless such a necessity should be clearly established by indisputable facts, it would be gravely prejudicial to the efficiency of the Army to contemplate such abolition, separation or divorce.

## NAVAL USES FOR SEAPLANES AND FLYING BOATS

By COMMANDER E. T. R. CHAMBERS, A.F.C., R.N.

**I**T is not the intention of the present writer to indulge in any controversial matters connected with the R.F.C. (Naval Wing), R.N.A.S., or the present R.A.F., but merely to outline the development and future of seaplanes and flying boats for naval purposes.

### PRE-WAR CONDITIONS.

Before 1912, only two builders and designers, Messrs. Short Bros. and Messrs. Sopwith, applied themselves seriously to the development of seaplanes and, so far as the Navy was concerned, they had only attained the experimental stage. By 1913, however, the Admiralty were already convinced of the practical value of these aircraft for coastal and sea reconnaissance work, and commenced to build a series of Air Stations along the South and East Coasts. By the end of that year seaplane bases had been completed at Calshot, Isle of Grain, Felixstowe, Yarmouth and Dundee.

The seaplanes then in use for service work included Maurice Farmans, Henri Farmans, Borel monoplanes, various types of Shorts, Wights and Sopwiths. They all suffered from being underpowered and this seriously detracted from their value. Nevertheless, early in 1914 a sea patrol exercise was carried out at the entrance to the Firth of Forth by four Short tractors, each being fitted with wireless, which at that time was in an experimental stage in seaplanes. It happened to be foggy weather during the whole period allotted for the exercise, but, in spite of this the patrols were completed and wireless reports sent in regularly.

About this time two machines of great interest were evolved by Messrs. Sopwith. One of these a forerunner of the flying boat, was of exceptional interest. Known as a Bat-boat, it was fitted with a single engine, something on the lines of the F.B.A. boat, afterwards evolved by the French and much used during the war. It was easy to handle and night landing was carried out with success in the beam of a searchlight at Calshot. The other was a huge machine, built with the idea of dropping a 14-inch torpedo. After many attempts and many disappointing hours spent in "taxying" about Southampton Water,

it did eventually manage to struggle off carrying the torpedo. It was not a success, but it was a move in the right direction.

The Wights were also delivered in 1914. In their day they were wonderful machines, as they got off after about a 50 yard run, owing to their great lift and beautifully designed floats. Their speed was about 80 knots. Their career came to an end when the first machine delivered nose-dived from about 200 feet, killing pilot and passenger in June, 1914. The writer well remembers poor Lieutenant Cresswell, R.M., who had turned this machine over to him and was up for his last flight, saying, "She's a wonderful machine with lots of power but for goodness sake don't ever bring her down at over 70 knots as she won't come out of it"—She didn't!

The Naval Review came in June, 1914, and the seaplanes, which had assembled at Calshot from Grain and Yarmouth, had the honour of taking part in it, flying from Calshot to their buoys at Spithead, lying there during the Review, afterwards flying round the Royal Yacht and the fleet and returning to Calshot. Even then the uncertainty of flying material was such that, out of the eighteen machines nominated to take part in the Review only fourteen actually arrived at their buoys, whilst on the return to Calshot only eight got back without a failure of some sort. In justice to those who took part in this Review, I feel that I must add that no machines were damaged owing to crashing or to any errors of judgment on the part of the pilots.

The day after the Review all the visiting seaplanes returned to their own stations. Then came the orders to mobilise and all the Calshot machines were directed to proceed by air to the Isle of Grain.

#### SEAPLANES IN WAR.

(a) *In Carriers.*—On the outbreak of war the demand for vessels to carry seaplanes became pressing, and, as a first step, the Admiralty took over Cross-Channel steamers and one tramp steamer for this service. The "Engadine," "Empress" and "Riviera" were fitted out at Chatham to carry four seaplanes each, whilst the tramp steamer, which was renamed "Ark Royal," was fitted to carry ten seaplanes. Early in 1915 the "Ben-my-Chree" was also taken over and adapted to carry four seaplanes.

The "Engadine," "Empress" and "Riviera" took part in the Cuxhaven raid in December, 1914. The "Engadine" was also present at the opening stage of the battle of Jutland and sent up one seaplane which obtained some details as to the composition of the enemy. The "Ben-my-Chree" saw service in the Mediterranean and was eventually sunk by Turkish gunfire in 1917.



A further ship, the "Viking" renamed the "Vindex," was fitted for carrying seaplanes. This ship was in some respects an advance on her predecessors, inasmuch as she was the first to be fitted with a flying-off deck for aeroplanes. She carried four large and one small seaplane aft and two single fighters (aeroplanes) forward, these latter machines being stowed dismantled. It is of interest to record that from this ship a naval pilot first attacked a Zeppelin at sea, unfortunately unsuccessfully.

Late in 1914 the old Cunard Liner, "Campania," of 20,500 tons was converted into a seaplane carrier for fleet work. After colossal alterations, she carried twelve seaplanes and was fitted with a large flying-off deck forward for launching seaplanes on wheeled trolleys, thereby avoiding the danger of stopping to hoist them out. Owing to a misunderstanding about sailing orders she failed to put in an appearance at Jutland. She was not a success as her speed was insufficient to enable her to work with the fleet, but, from her, most valuable lessons were learnt and embodied in later ships. She was sunk by a collision at anchor in the Firth of Forth in November, 1918.

Other seaplane carriers completed during the war, were the "Pegasus," "Nairana," "Manxman," all small ships carrying from seven to nine machines.

This brief summary must suffice to describe the use of seaplanes from carriers in the war. The various uses made by the Navy of aeroplanes (landplanes as they have since been officially designated) is a separate subject which does not come within the scope of this article.

(b) *General Seaplane Work.*—Seaplane work was carried out from the stations built at Dunkirk, Dover, East Fortune, Scapa Flow, Milford Haven, Cattewater, Firth of Forth, Gibraltar, Malta, Dardanelles, etc., in addition to the original stations at Calshot, Yarmouth, Dundee, Isle of Grain, Felixstowe. Seaplanes were also sent out to the East Coast of Africa where they suffered considerably from warped propellers.

Short and Sopwith machines were employed and these two types remained more or less standard for the whole period of the war. Practically no advance in seaplane construction was made during the war except that a slightly greater speed was obtained owing to the invention of higher H.P. engines.

The work of these aircraft was almost entirely confined to sea patrols. There was little or no glory attached to it, but very hard and exacting work was involved. Reporting enemy submarines and bombing them when possible was the sum total of excitement experienced.



## THE FUTURE OF SEAPLANES.

If one looks back to the finest seaplane in 1914 or even in 1913 it was the 80 h.p. Short. Now in 1928 we have the Fairey III D, which, without prejudice, is exactly the old 80 Short with a higher h.p. water-cooled engine. This is the total progress in seaplanes from 1913 to 1928. Freak machines can be and are built to do record-breaking speeds, but they are none too stable on the water and cannot stand even a moderate lop. These are all very well for winning Schneider Cups and performing other soul-stirring feats, but they are of no use for Service purposes. Many of their features may prove useful for embodiment in future machines, but the present writer sees no use for the seaplane in future and believes that its place should and will be taken completely by the flying boat, which has a great future before it.

## FLYING BOATS IN THE WAR.

The development of flying boats to their present state is almost entirely due to the perseverance and initiative of the late Commander Porte, Royal Navy. In 1913 there was one small experimental pusher flying boat in Great Britain. This was built by Messrs. Sopwith. The hull was about 20 feet long and 4 feet beam, and had a "step" in it like a hydroplane racing boat; it was a biplane with a single engine. In the same year, Commander Porte, who had retired, joined Messrs. Glen Curtis in New York with the idea of constructing a flying boat to cross the Atlantic. On the outbreak of war, Porte naturally joined up with the R.N.A.S. and Curtis flying boats were procured from America. These machines were very unsatisfactory and much underpowered, but from this early type, Porte constructed the modern flying boat, in stages passing through the Improved Curtis, "H.12," "F.2.A.," and "F.5," culminating in a wonderful triplane boat named "Felixstowe Fury," which was completed in November, 1918, too late for use in the Great War.

Incidentally it should be noted that an "H.12" flying boat destroyed the Zeppelin "L.22" on May 14th, 1917, near Terschelling.

The seaworthiness of the "H.12" type was shown to be of a high order as the same boat was three days adrift subsequent to an engagement with Zeppelins and hostile vessels but, in spite of shot holes in the hull and severe weather conditions, she was still able to keep afloat.

During the war, flying boats working from Felixstowe and Yarmouth, carried out regular patrols almost daily to Borkum and in the Heligoland Bight. These patrols were usually of about seven hours' duration, and it speaks well for design, piloting, care and maintenance when it can be stated that breakdowns were almost unknown. To prolong the

time flying boats could remain in the Heligoland Bight, special towing lighters were constructed to carry them to Terschelling Light Vessel. Here they were launched and could then carry out their patrol right up the Bight returning to Felixstowe or Yarmouth by air.

#### LATER DEVELOPMENTS.

The "Felixstowe Fury" was a step forward in flying boats which was years ahead of its time and it has not yet been either equalled or passed. It would be of interest to know what happened to the plans of this wonderful craft, but a short description of it may, at any rate, be of interest. The writer believes he is the only pilot living who had the privilege of flying her. She was a triplane boat with five 360 Rolls Royce engines; she had a crew of six and carried four to six machine guns and fifteen hours' fuel, and could attain a speed of 90 knots and, with full load, a height of 10,000 feet. A trial carried out in July, 1919, when the wings were getting a bit "soggy," is of particular interest. With three and a half hours' petrol and three passengers the boat climbed easily to 15,000 feet, her ceiling being 17,500. It was estimated that with new fabric planes, not warped as these were, she would have reached 20,000 feet. Think of this, in 1918, for a flying boat! She had many other advantages—no blind spot, splendid manoeuvrability, easy to fly, land and take off.

Work on flying boats completely stopped at the end of the war, as the authorities considered they were useless. Luckily, in spite of lack of interest, and of orders, some firms, notably the Supermarine Aviation Company and Messrs. Short, held to their belief in this type of aircraft. The former firm worked hard at improving the flying capabilities of the last design of flying boat used during the war—the "F.5"—and after months of uphill work turned out the "Southampton." Now that flying boats are at long last beginning to take their proper place in aviation, this represents the latest development.

Large flying boats have been attempted by various other firms but none of them has proved satisfactory. Messrs. Short Brothers have specialised in steel and in duralimin hulls and floats and have evolved a watertight and lasting hull which should do much to further progress. The "seepage" of the wooden hulls used in the olden types was a constant source of trouble and added enormously to the weight. It should be noted that during the war the wooden-hulled boats were invariably overloaded by approximately one ton, and although some of this was naturally due to "gadgets," the porous nature of the wooden hulls contributed largely to the defect.

## THE FUTURE OF FLYING BOATS FOR NAVAL PURPOSES.

At the present time the total number of flying boats in use by the R.A.F. is inadequate for naval requirements in a future war.

Flying boats will be required in hundreds for coastal reconnaissance, submarine patrols and convoy work and this, not improbably, at a time when enormous demands are being made for aircraft, pilots and ground organization for other than naval air services.

So far the question of employing flying boats for the Fleet Air Arm has not been touched on. At present the Fleet Air Arm uses aeroplanes as Fighters, Reconnaissance and Spotter machines and for Torpedo machines, but it is worth considering whether flying boats might not be used for some of the fleet air work. Their advantages may be summarised as follows :—

- (1) For reconnaissance and spotting, the flying boat, with its eight hours' endurance, is worth more than two aeroplanes despatched in succession with only four hours' endurance.
- (2) They do not require a huge vulnerable ship with an extensive flying deck from which to work. It should be possible to launch flying boats from a smaller type of carrier, preferably from a landing stage protruding from the stern rather than by hoisting out with a crane or derrick.
- (3) They do not necessitate the carrier steaming at high speed into the wind, and often, therefore, away from the fleet, for launching or landing on.
- (4) They can refuel anywhere and from any vessel.
- (5) They do not require an escort as they are very powerfully armed and, if attacked, have nothing to fear if they come down to about 100 feet to safeguard the "blind spot" under the tail.
- (6) They can fly with one engine broken down. In the event of a forced landing they float indefinitely where an aeroplane drowns in half an hour or less.
- (7) Under suitable conditions, the crews can live on board.

*The disadvantages are :—*

- (1) Large flying boats do not "fold" like the reconnaissance and spotter aeroplanes, they therefore require more storing room ; but this difficulty can probably be overcome.
- (2) They cannot keep in company with a fleet by taxiing on the surface for a prolonged time.

- (3) A satisfactory method of launching these craft from a carrier at sea has yet to be devised.
- (4) It has yet to be proved that they can get up in a sea where aeroplanes can still be flown off a carrier
- (5) A satisfactory method of getting them in at sea has still to be devised.
- (6) The flying boat carrier must still be a really fast ship, as she will have to stop or at least slow down considerably to launch her aircraft. This, however, should not cause her to lose the fleet as the aeroplane carrier is liable to do.

Flying boats are not suitable for Fighters or as Torpedo machines, but if they can be used for reconnaissance and spotting it will allow for more aeroplanes to be taken in the carriers with flying-off decks as Fighters and Torpedo machines, duties for which aeroplanes are better suited.

Some of these disadvantages may appear to be insuperable, but it should be borne in mind that so little interest has been taken in flying boats up to now that their capabilities and uses have not really been explored, nor is the Navy yet in a position to ascertain whether they can solve any of its aviation problems.

In design no very marked improvement has been effected since 1918 when a boat was actually flown which carried fifteen hours' fuel and which had a speed of 90 knots and a ceiling of something approaching 20,000 feet. The cruise to the Far East by "Southampton" flying boats now in progress could have been done ten years ago, but no-one was interested in this type of aircraft. To-day its commercial prospects are becoming more and more obvious.

From a naval point of view there would seem strong arguments for testing their value for fleet air work, while the experience of the war gave ample evidence to show that they will be essential for coastal reconnaissance, anti-submarine patrols and as escorts for shipping in narrow waters; but if they are to be properly constructed to enable them to perform these services it is all important that they should be specially designed to meet naval requirements.

## STRATEGIC DEMOLITIONS

BY CAPTAIN G. E. GRIMSDALE, R.E., *p.s.c.*

THE problem of strategic demolitions, or the creation of obstacles to delay the movement of an enemy is of historic importance. Not many soldiers have been able to place the sea in the way of their enemy as Moses did, yet in most campaigns efforts have been made to provide similar effects, such as the cutting of the Netherlands dykes to hinder Philip of Spain, or similar action in Belgium during the Great War. The basic idea underlying such action has always been to reduce the enemy's mobility.

Now this mobility does not depend merely on the maximum pace of a man or a vehicle, but is a matter of the whole organization for war. An army still metaphorically crawls on its stomach, and the modern army stomach is an increasingly complex organism. Hit an army in its stomach, or even press heavily on it, and it becomes practically immobilized. Hence the growing importance of the Line of Communications, by means of which that stomach is kept filled and fit.

There is always an economic limit to the numbers and pace of men or machines which can operate from a definite L. of C. The initial disasters of the Mesopotamian campaign were mainly due to the failure to realise this fact. In the same connection we may recall the statement of Henry IV of France, on his campaigns in Spain: "Invade with a large force and you are destroyed by starvation; invade with a small force and you are destroyed by a hostile population." Callwell, again, in his "Small Wars," says: "General Skobelev, when engaged upon his campaign against the Turkomans in 1880, was constantly in fear that the Russian government would take alarm at the slowness of his progress, and would send reinforcements across the Caspian; weakness of force to him was under the circumstances a source of strength."

In other words the most sensitive spot of an army is its L. of C., dependent ashore on both road and rail. In the future M.T. may assume certain powers of cross-country movement, thus becoming to some extent independent of roads. This power will always have certain definite limitations, however, and bulk supplies will long be dependent on railways. In most parts of the world, and particularly in highly developed Western Europe, there will always be certain defiles through which all supply vehicles on the L. of C., whether road or rail, must pass, and where pressure can be most easily productive of delaying effect.



The best method of applying this pressure in old days, when armies normally lived on the country, was the ravaging of vast areas, as exemplified by the Russian retreat in 1812. Again, before withdrawing behind the famous lines of Torres Vedras, Wellington carefully demolished everything in the surrounding country, communications, supplies and accommodation. He created a form of desert, where the French army found it impossible to exist. In these cases it was the destruction of supplies, rather than the interruption of communications, which enabled the Russian and English armies to achieve their object. Nowadays, communications have assumed greater importance, since all supplies have to be transported from the base to the fighting front.

The South African War provides an interesting instance of pressure applied to the L. of C. by means of an interruption of communications. During the advance from Bloemfontein to Pretoria, Lord Roberts decided to surround Kroonstad, the capital of the Orange Free State with his cavalry. It was essential to cut the railway in rear of the town in order to cut off the enemy's retreat. For this purpose, a raiding party of fifty picked cavalry troopers and eight mounted sappers, under Major (now Lieut.-General) Hunter Weston, R.E., was selected. Passing through the Boer picquets, the party reached the railway, to find that the retreat along the road running parallel to the railway had already begun. In the darkness, the line was cut, and the Boers were forced to abandon a quantity of stores and rolling stock.

Turning now to the period of the Great War, one sees that strategic demolitions were at times carried out on a definite scientific basis, and at others were completely muddled.

During the initial German advance into France and Belgium very few of the main road and railway bridges were destroyed. In the case of the French this seems to have been due to two main causes:

- (i) A natural reluctance to destroy their own property;
- (ii) The fact that, as the French plan was essentially an offensive one, it was probable that the roads and railways would be required later for the use of the French army.

The possibility of their destruction had not been overlooked, for, in accordance with the normal Continental practice, all the important French bridges had been constructed with demolition chambers.

Somewhat different reasons led to the Belgian failure, which unfortunately had disastrous results for the Allies. The attached sketch map shows the selected concentration areas for the First, Second and Third German Armies in 1914, as well as the main railway lines leading from Germany into Belgium and Northern France. It will be seen that the

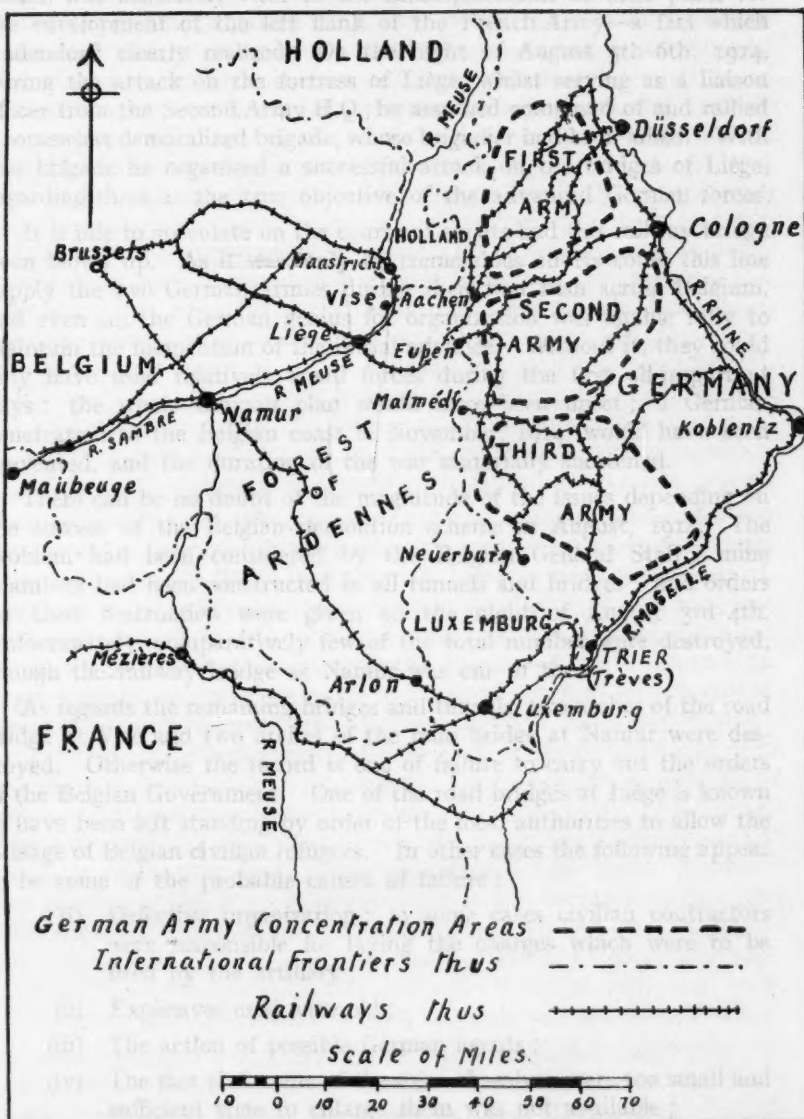
route Aachen-Liège-Namur may be accurately described as a bottleneck. Germany, having decided not to violate Dutch neutrality, was obliged to give up any idea of using the important line through Maastricht, in the Limburg peninsula, while south of the river Meuse lies the forest of the Ardennes. This area is not the impassable military obstacle it is sometimes said to be, and there are numerous good, though hilly, roads running through it. There is, however, no main railway line leading through the forest into Belgium. The next main line of railway from Germany south of the Meuse valley route, is the Trier-Luxemburg-Mézières line. There is also a main line from North to South across the Ardennes from Namur to Luxemburg, but, owing to the positions of the particular concentration areas selected and the general direction of movement, this was not of immediate importance for the initial German advance. This line crosses the Meuse at Namur by a bridge, successfully destroyed by the Belgians early in the war.

East of the Belgian-German frontier, the Germans had built a maze of strategic railways in preparation for the projected advance through Belgium. North of the Ardennes, these lines all converged on Aachen, whence there was only the route Aachen-Liège leading into Belgium. It must be remembered also that in 1914, although all armies were supplied with M.T. in considerable quantities, it was impossible to rely on M.T. for anything beyond detailed distribution to units. Bulk supplies could only be brought up by rail. Thus, in the absence of a route through Holland, the natural line of advance into Belgium for the First and Second German Armies lay through the Liège gap, that is, between Visé on the Dutch frontier, and the Ardennes. The natural line of advance for the Third Army lay south of the Ardennes. Thus, during the early stages of the war, two German armies with a total of not less than half a million men, were dependent on the one route through Liège. No wonder the Germans disposed of 60 per cent. of their railway construction and operating troops in rear of the First and Second Armies.<sup>1</sup>

On this railway, "between Liège and the boundary (twenty-six miles) there were twenty tunnels, one viaduct and fifteen bridges, plus fifteen road bridges."<sup>2</sup> At Liège itself was the vital railway bridge over the river Meuse, which is here some 300 to 400 yards wide. In addition, there was a road bridge at Visé and several road bridges at Liège. Ample opportunity was thus present for the execution of a well thought out scheme of demolitions on the part of the Belgians. From the

<sup>1</sup> Neame. "German strategy in the Great War." See also pp. 39-41 for an interesting commentary on these railways.

<sup>2</sup> General Dumont (French Military Attaché, Washington). Article on "Major Demolitions" in "The Military Engineer." Vol. XIX., No. 103,



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Wellington's methods at Torres Vedras, and those of the Russians in 1812, are still applicable to modern war, as exemplified by the retreat of the Germans in 1917 when, during the winter of 1916-1917, in order to shorten their line, they constructed a complete fresh system of defences many miles to their rear. Early in 1917 they began to withdraw to the new position, gradually evacuating all movable stores and systematically destroying everything left in the country. This process was carried to extremes, buildings and communications, even fruit trees being destroyed. Finally they withdrew their troops and fell back on the new position, known as the Hindenburg line. Then they blew up all important cross roads by means of mined charges, and, in addition, left behind a large number of delay action charges. These were cleverly hidden and, in some cases, were timed not to detonate until weeks after being set. The result was to create a devastated area over which the British forces not only had to advance, but in which for months they had to live. The provision of accommodation for troops quartered in this area threw a considerable additional strain on the inadequate communications, so that, on this front, the Germans were given a long respite, and so still further strengthened the Hindenburg line.

This result was obtained by a very carefully thought-out system, detailed instructions, and the use of a very liberal supply of explosives. In the article already quoted, Dumont says: "The Germans [in 1914] were not held back in Belgium on the roads more than a few hours and on the railroads not more than a few days, and, in France, they were able to cover the distance of 130 miles from the border to the Marne in ten days. In 1917, it took the Allies five days to advance about twenty-eight miles, without any resistance ahead of us save the bare results accomplished by the German demolitions."

During the retreat of the Fifth British Army from the Somme area in March, 1918, there is no doubt that many important bridges were left standing, of which one of the most vital was the railway bridge at Péronne. When the Germans withdrew in 1917 they are said to have detonated a truck of explosives on this bridge. A new bridge was built which was opened for traffic about the end of February, 1918. The Germans captured this bridge intact in March, 1918, with the result that they were able to run a train into Villers-Bretonneux (only ten miles from Amiens) the day after the place was taken by them.

This failure was apparently due to the fact that, although orders had certainly been given for all bridges to be destroyed, and in some cases charges had actually been laid, yet there were no definite instructions in which the exact responsibility for their demolition was clearly specified. This is the more surprising when it is remembered that for some time

there had been the certainty of a large scale German attack, with the strong probability that it would come on the Fifth Army front. The full strategic possibilities of the use of demolitions on a large scale had evidently not been realised, in spite of the clever use made of them by the Germans in the same area twelve months before. Again, the lesson is that only by a well thought-out scheme can success be achieved.

Similar methods to those of 1917, were again employed by the Germans during their final retreat in 1918. Although, unlike 1917, on this occasion they were being forced back, yet they found time and opportunity for using explosives on a large scale, and there is little doubt that by the time the Armistice came, the communications of the Allies were strained to their utmost. The advance of the Allies thus came to a standstill, but the impossibility of getting supplies further forward would automatically have had the same effect within one or two days, had the Armistice not been signed on the 11th November. The use of demolitions to deny an area to the enemy or to protect a flank, is a further extension of the use of natural obstacles for the same purpose. Large rivers, marshes, the sea, or deserts form natural physical obstacles to the passage of an army, and have been used for this purpose at various times. In this category also may be placed the deliberate break of gauge on the Russo-German frontier, designed to hinder any invasion of Russian territory.

An example of the use of demolitions to protect a flank, most interesting in view of the present tendency to go to the ancients for lessons of war, is afforded by a study of the methods employed by Jenghiz Khan. Prior to the invasion of Turkestan in 1220, the Mongol Emperor concentrated his main forces on the river Irtish in the western corner of Mongolia. His first measures were designed to cover this concentration from attack by the enemy and to ensure its secrecy. He despatched a force, under his son Juji, towards the lower reaches of the Syr Daria, 500 miles on the west flank of his concentration area, where an enormous area of country was ravaged. The enemy, thinking this was the vanguard of an invading army, set out to meet Juji. By the time they arrived the Mongols had accomplished their mission, sent back such horses and forage as they required, and burnt all the towns and crops, after which "the Mongols set fire to the dry grass on the plains, and disappeared behind the barrier of flame."<sup>1</sup>

In considering these examples, the difference between a modern army and those of only a few years ago must be remembered. The modern army with its mechanized stomach, has a much more delicate digestion than the old, more human one; its diet is much more rigid; and its

<sup>1</sup> Liddell Hart: "Great Captains Unveiled."

mobility and efficiency decrease in direct proportion to the emptiness of its stomach. Hence it is all the more sensitive to any delay in its essential foods. A delay of one day in the supplies for a very mobile force may be compared to a delay of a week possibly in those of an older type of force. Thus mechanization vastly increases the importance of an uninterrupted and efficient L. of C.

Study of historical examples, and especially the Belgian failure in 1914, leads to the conclusion that the success of any demolition scheme entails careful preliminary preparation. For a Continental country this appears obvious, yet there are one or two factors which complicate the question. First the moral factor. Can we expect any country deliberately to plan to destroy some of the most expensive, and possibly beautiful objects in its possession? Secondly, there are also difficulties in connection with the scheme itself. How, for instance, is the explosive to be stored—in centrally placed depots, or at the site of each demolition? If the former solution is adopted, then the scheme will be complicated by difficulties of distribution, when the time comes for its use. In the case of the latter, greater expense will be incurred owing to the necessity for having extra storage accommodation, guards and inspection staff. In any case, the provision of large quantities of explosives in peace does not appeal to harassed treasuries; whilst constant inspection and turn-over, necessary to prevent deterioration, adds to the expense.

In any future Continental war, demolitions will be affected by two additional factors—the air and gas—separately and possibly in combination. We have been told that bombing from the air will be on a vast scale. It does not yet appear to have been proved, however, that bombing in the future is likely to be more accurate than in the past. The science of anti-aircraft gunnery has greatly improved since the late war; it is still making rapid progress, and the claim that aeroplanes will be forced to fly higher than hitherto seems justifiable. This method of destruction cannot therefore be relied upon in the case of isolated and important bridges. For these, demolitions carried out in the normal manner will still be the only reliable method of destruction.

For the purpose of creating a devastated area which is to be denied to the enemy, the use of persistent gas may well prove the most reliable and rapid method. Used in conjunction with a well thought out demolition scheme, it may become the most effective defensive weapon yet devised.

Of the employment in combination of the air and gas we have practically nothing but our imagination to draw upon. As a means of flooding an area with persistent gas, there appear to be unlimited possibilities

As a substitute for the efficient destruction of a large bridge by means of explosives, however, neither gas nor the air, used singly or in combination, seem likely to be effective.

The above considerations point to the conclusion that explosives for the creation of obstacles, air bombing, and the use of gas are all intimately linked and are complementary. Using the word in its widest sense, one may say that demolitions have really become another arm. Strategically their use in war is based on the same ideas as in the case of the fortress defence of a frontier. Their object is to deny certain routes to an enemy, and to cover preparations for one's own offensive. In the late war, the fortress of Antwerp, although only holding out for a few days, forced the Germans to detach a large force for its capture. This force was not available during the critical period of the wheel through France, at a time when the German right flank required every available rifle.

Thus, for the future, we may expect to see the frontier defence of a Continental nation depending partly on an efficient strategic demolition scheme, intimately bound up with the fortress scheme. Demolitions will include the use of explosives placed in position by hand (both to destroy definite bridges, etc., and possibly as anti-tank minefields); bombs dropped from the air; and the use of gas spread from the ground and from the air. There will also no doubt be developments in the design and construction of fortresses. Whilst it is inconceivable that an entire frontier should ever be completely protected in this manner, it will be possible to select certain definite routes, and, by the judicious use of the various means available, to deny these absolutely to an enemy. The use of gas will entail, as a corollary of this policy, recognition of the fact that such areas will be denied also to one's own army. The area in which fighting can take place will thus be restricted, and the defender will have a considerable degree of choice of areas in which to fight.

Strategic demolitions thus deserve careful thought and study. In our Army Manuals there is at present no mention of the principles upon which a scheme of strategic demolitions should be based. The subject is only dealt with from the point of view of organizing the work of a tactical scheme of demolition. In this case consideration as to the timing of the destruction of a bridge arise, as it is important to avoid sacrificing any of one's own troops by premature destruction. Again, during a tactical withdrawal there are obvious difficulties in maintaining the supply of explosives in large quantities.

Such considerations, however, do not arise in the case of vitally important strategic demolitions of a deliberate nature. These must be thought out well ahead. In connection with the latter, certain principles may be deduced from the various arguments put forward above:



- (1) *Policy.*—In the case of strategic demolitions this must be laid down by G.H.Q. The C.-in-C. is the only person in possession of all the facts of the strategic situation at any given moment, and he alone is in a position to decide which routes or areas are to be denied to the enemy, which he himself may use ;
- (2) *Concentration.*—The fourth principle of war applies here as in all other operations of war. It demands the necessary skill to decide on the vital places which must be attacked, and then to concentrate everything on their destruction. We have seen how the Belgian attempt to include large numbers of points in one comprehensive scheme broke down when the time came to put the scheme into effect, and how, as a result, the one really vital bridge was not destroyed ;
- (3) *Responsibility.*—We have also seen how the lack of clear orders and definite allocation of responsibility was the cause of failure during the British retreat from the Somme in 1918. In future, we must ensure that once G.H.Q. have laid down their policy, the execution of that policy is based on a carefully thought out scheme, wherein definite responsibility is allocated to definite individuals working in definite areas.

Finally, it would seem that, in future, the British Army should be prepared to employ explosives on a very much larger scale than ever in the past. Effective destruction, which will cause a delay of weeks rather than hours, can only be accomplished by a liberal use of explosives. The increasing use of reinforced concrete, particularly in western Europe, will still further increase the quantities required. Fortunately, mechanization should be capable of providing means of carrying an increased supply of explosives in the field.

We have been told by Marshal Foch that "ground" should be regarded and studied as an "arm." Analysis of the subject under review shows that the same advice is applicable to-day to "demolitions."

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## THE FIRST WAR MEDAL AWARDED TO AN ENGLISHMAN

JOHN KENDALL, 1480

By MAJOR T. J. EDWARDS

**T**HE majority of those who have achieved a unique place in history have accomplished this solely by long years of labour ; some have reached this pinnacle by the exercise of their native genius, whilst a few have attained it simply by the accident of circumstances over which they had no control. To this last class belongs John Kendall, of the English Knights of St. John of Jerusalem, and the unique position he holds in history is that he was the first Englishman to be awarded a medal for war service.

The grant of this medal to Kendall gives him a place in our history out of all proportion to the services he rendered to this country. According to the " Dictionary of National Biography " he was of a " Norfolk or perhaps Yorkshire " family, and was appointed " Turcopolier, or general of infantry, to the Knights of St. John in 1477," succeeding one John Weston. The medal commemorates his services during the defence of Rhodes and has on the obverse Kendall's bust, with the inscription—

" IO—KENDAL—RHODI—TVRCVPELLERIVS "

and on the reverse, the arms of Kendall and of the Hospitallers, with the inscription—

" TEMPORE OBSIDIONIS TURCORUM MCCCCLXXX "

The siege of Rhodes in 1480 is chiefly memorable, as far as the Knights of St. John are concerned, for the gallant defence of their able commander and grand master, Pierre D'Aubusson, a son of French nobility. Born in 1423, his early years had been devoted to the career of a soldier under Sigismund, and, under the Archduke Albert of Austria, he participated in a campaign against the Turks. He joined the Order of the Knights of Rhodes after the battle of St. Jacob, 1444, and by his zeal soon rose to important offices and eventually to Grand Master in 1476. About this time, the Turks, who had made themselves masters of the East, now began to threaten Europe.

After the capture of Constantinople by the Turks, in 1453, Mahommed II had announced his intention of seizing Rhodes, the stronghold of the Knights, preparatory to carrying out his long cherished plan of conquering Italy, but the subjugation of Hungary, Albania, Bosnia and the Crimea prevented his giving effect to this resolution for twenty-seven years.

In 1479 the Sultan prepared a powerful fleet, which appeared off Rhodes in December of that year. A landing was effected and the Turks made a vigorous attack upon the city. The siege went on until the Knights were reinforced in July, 1480, when they attacked the Turks, forcing them to retire, leaving 9,000 of their dead upon the field. An armistice ensued and a treaty of commerce signed, D'Aubusson's fame being greatly enhanced as a result of the siege.

According to Vertot ("History des Chevaliers Hospitaliers") Kendall was not present at the siege. In that year he is officially styled "Locum tenens of the grand prior in Italy, England, Flanders and Ireland" (Rymer), and all were commanded to assist him in his efforts to raise men and money to reinforce the Rhodian Knights in their gallant resistance to the Turks. It was for these services that Kendall was awarded the medal. So successful were his efforts that within a few months he was able to send sufficient reinforcements to his besieged comrades to enable them to assume the offensive and decisively defeat the Turks.

The medal is now in the British Museum, and, according to the "Guide to Historical Medals in the British Museum," Kendall probably had his portrait made in Florence, or possibly at Rome, where Florentine influence was strongly felt at the time. In any case the medal is Florentine. It was found in Knaresborough Forest and passed into the possession of Thoresby, and thence to the collection of the Duke of Devonshire (D.N.B.)

Kendall was present at Calais in 1500 at a meeting of Henry VII and the Archduke Philip, and was one of those deputed to wait on Catherine of Aragon when she arrived in England in 1501. He apparently died in November of the same year.

## A GERMAN SIDE-LIGHT ON THE SOMME

**I**N Germany there have just appeared two volumes,<sup>1</sup> dealing with the Battle of the Somme. These works, of 250 pages each, belong to the series of monographs on the battles of the Great War, now being issued by the German War Records Office. They deal with the fighting of the period 24th June to 31st July, north of the Somme river, the sub-title meaning "The Foci of the Battle in July."

The fighting is described in very great detail, and if the narratives are continued on the same scale it will take twenty or more volumes to complete the whole battle. The action of small units, even companies, is discussed at length, and many names, mostly junior regimental officers and N.C.Os. are mentioned; there are indeed over 2,400 names in the two indexes.

There are a large number of photographs and fifty excellent black and white maps, which show at a glance the progress of the fighting near the various localities: Gommecourt, Beaumont Hamel, La Boisselle, Pozières, etc. The text is, however, somewhat wearisome and uninteresting reading. Neither the total losses nor the losses of divisions are given, but the casualties of units are occasionally mentioned, usually when they are small.

The following is a translation of part of the Preface; it is the most interesting part of the book. It admits the disastrous effect of the battle on the German Army:—

"It would be erroneous to measure the results of the battle of the Somme by mere local gain of ground. Besides the strategic objectives, the British and French followed out a definite plan of exhausting the power of the defenders by the employment of great masses of artillery in constantly repeated attacks. Although, exactly as before Verdun, the casualties of the Entente were numerically greater than ours—750,000 British and French against about 500,000 Germans—this enormous loss of blood affected Germany very much more heavily. Quite apart from the facts that by its very loss the limited possibilities of replacing it were the more narrowed down, and that the war industries

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<sup>1</sup>Somme-Nord. Teilé I and II. Die Brennpunkte der Schlacht im Juli, 1916. Issued by the Reichsarchiv. Sfalling, Berlin.

drew off into their service able-bodied men in a constantly increasing measure, the battle of attrition gnawed terribly into the marrow of the defenders. The enormous tension on all the fronts compelled the Supreme Command to leave troops in the line until they had expended the last atom of their forces, and to throw divisions time after time into the same battle. In the circumstances, it was not to be avoided that the demoralizing influences of the defensive battle affected the soldier more deeply than was fitting for the maintenance of his lust for fighting and his power of devotion. But, more serious than anything else was it that, as the demand for self-sacrifice greatly exceeded what could be expected of the average man the fighting was largely left to the best of the troops, and not least to the officer. The consequences of this were again a frightful death-roll of the fully-trained in peace time and finest soldiers, whose replacement was impossible. It is in this that the roots of the tragedy of the battle lie."

## SERVICE INSTITUTES AND PHILANTHROPIC BODIES

By PROFESSOR ERIC SHEPHERD

**N**O one with any knowledge of the domestic and social side of the life of the Service man in the past will deny that there was a time when the rank and file of the Navy and Army owed all the comfort they ever had, and all the civilization, to the devoted work of philanthropists and philanthropic bodies. Before the year 1863 official recognition of the men's needs was perfunctory in the extreme; and even after that year, though here and there a canteen was established on sound lines, it may be admitted that, but for the intervention of philanthropic bodies, the lot of the sailor and soldier was "not a happy one."

Nowadays, how great a change! During the war, and since, an incorporation of the Services themselves has conducted their domestic trade—so organized as to be exclusively Service in control and exclusively Service in all its benefits. Authority is no longer indifferent to the wants of the men, and to the countenance of authority is invariably added the enthusiastic and most helpful co-operation of Commanding Officers and Presidents of Regimental and Service Institutes. Gone is the haphazardry of former times, and in its place is the smooth-working efficiency of the modern Institute service. On the social and domestic side, the Services to-day have worked out their own salvation, and are independent.

In view of this notable change, it would be well if the Philanthropic bodies could have put it to themselves that some of their former activities on the Services' behalf had become redundant, and might even be regarded as gravely injurious in certain respects to the best interests of the men who once owed them so much. Commercially, the continued competition of the Philanthropic bodies represents sheer harm to the soldier of to-day, because any trade lost to his own business is advantage lost to him. It takes from profits which are his own; it means that some of his fellows are not contributing to benefits in which, nevertheless, all equally share; and it hinders the uniform workings of



a system which was carefully designed to be, and is, to the greatest advantage of the Services. There need be no wonder that the Philanthropic bodies have been slow to realise that the good work of yesterday is the mischief of to-day, but one result of their failure of perception has been a long and embittered controversy.

It is a commonplace of human experience that controversies tend to become heated, and that the point at issue is liable to be confused and lost sight of in mutual recrimination. The point at issue between the modern Service Institutes and the Philanthropic bodies is, *not* whether the latter should now abandon all concern with the Service man, *but* whether their concern ought any longer to include a trading organization in competition with, if not in opposition to, the Services' own business. All the bad blood which has arisen in the course of this unnecessary controversy is the result of straying from the point. It has been said, on the one hand, that the Institute organization is a ruthless, soulless, purely money-grubbing affair, intent on taking from the men every penny they possess, wholly indifferent to the real welfare of the troops. And it has been retorted, on the other hand, that the Philanthropic bodies are utterly useless—sanctimonious, hypocritical, a nuisance and insult to the soldier. But neither party really believes these things of the other; and the issue is, not whether the Philanthropic bodies should quit the field altogether, but whether they ought not to quit that part of the field which is now occupied, and competently so, by the Services' own provision for their physical wants.

When this issue is squarely faced, there is no room left for bitterness at all. Neither side ought to deny the good that is in the other. The N.A.A.F.I. should welcome the co-operation of Philanthropic bodies on the social and religious side, and the Philanthropic bodies should abstain from any sort of commercial rivalry with the N.A.A.F.I. The result would be that the Service man, who must always be the chief sufferer from these differences, would henceforth be the better served.

It may be helpful, at this point, to run over the facts of the situation and try to view them in relation to one another. Here are two trusts (using the word in the sense of a specific duty solemnly undertaken)—the N.A.A.F.I. and the Philanthropic bodies; the former existing exclusively for the Services, the latter including the Services among many other objects. The trust of the N.A.A.F.I. is to provide the whole of the material requirements of the Services, and to conserve the personal income of the Service man to the utmost. That it performs this trust figures prove; for example, it has already contributed a sum of at least £200,000 towards the refurnishing of the Institutes, and on the recreational side—sports, etc.—it stands for a sum approximating to

£450,000 a year of the private income of the Services. Conducted with all the efficiency of the commercial world at its keenest, it is yet, owing to its constitution, entirely without any element of ordinary commercial self-seeking. Indeed, the self of the N.A.A.F.I. is the Services, as can be demonstrated from its Articles of Association. The boundaries of the N.A.A.F.I. trust are clearly defined; and, since the organization is jealous for its success, it naturally objects to any encroachment upon these boundaries by any other trust. The trust of the Philanthropic bodies is no less clear; it is the social and spiritual advancement of the men. No one disputes the value of this trust but, on the contrary, public subscription attests the general belief in its importance. The N.A.A.F.I. offers no criticism whatsoever of the Philanthropic bodies, except in so far as these attempt to add to the sums at their disposal by encroachment upon its trust. Such encroachment is wasteful; it means the duplication of staffs and machinery, of plant and buildings. Since it is obviously impossible that any amateur and temporary trading body can equal the expert organization and long experience of the N.A.A.F.I., the wise and economical policy would surely be to render the latter's trust inviolable, and to make good any resulting loss to the resources of the Philanthropic bodies by a direct annual contribution, either in cash or kind, from the N.A.A.F.I., as representing the undoubted obligation of the Services to social and religious societies which stand them, and have stood them, in good stead.

If the Philanthropic bodies stopped at the provision of that cup of tea and sugared bun, which is known to promote a pleasant social atmosphere, no objection could of course be raised; but when they proceed from this to all the commodities and paraphernalia of a general store, it is fair to remind them that the material welfare of the Services is not their trust, but that of the N.A.A.F.I., and that there is nothing philanthropic in hindering the workings and retarding the benefits of a Service Institution which is itself the outcome of sound, practical philanthropy. There is plenty of scope for the Philanthropic bodies on the social and religious side, and the greater their activities within this trust of theirs, the better everybody, the N.A.A.F.I. not excepted, will be pleased. The welfare of the Services is a common cause. In those two words lies the solution of the problem. It was by making common cause in face of the emergency of war that the principle of the N.A.A.F.I. came into existence, and it will be by the making of common cause in face of the ever-present emergency of human nature that it and the Philanthropic bodies will compose their differences and settle down together, each in its own sphere and proper trust.

## EMPIRE SETTLEMENT & IMPERIAL DEFENCE

By CAPTAIN C. A. P. MURISON, M.C., R.A.

**H**ISTORY has assigned various causes to the wars of the past but underlying every outbreak has discerned the urge of economic pressure. In early times the need for more pastures or better hunting grounds drove tribe to overrun tribe and later provided the motive force behind those eruptions of savage hordes which characterised the early history of Europe. The desire for trade, markets, fresh sources of raw material and colonies lay behind the great wars of the eighteenth century, just as Germany's desire for "a place in the sun" led to the outbreak of war in 1914.

With the gradual but inevitable overcrowding of the older countries there seems little reason for supposing that the need for markets and for fresh sources of raw materials will abate, while the cry for an outlet for the surplus population is certain to become more insistent.

For two reasons there is a growing demand that this outlet should be provided by territory under the parent flag. In the first place no country likes to lose the most adventurous and enterprising members of its population and to see them contributing to the wealth and power of its rivals, any more than the prospective emigrants themselves like being divorced from their national traditions and native tongue. In the second place it is being made abundantly clear to the old and crowded countries that the new, in order to preserve their own standards and traditions, will prosecute with increasing vigour a policy of material and racial discrimination as their populations become larger and their economic problems less pressing.

There are signs that this discrimination is already offending national susceptibilities and causing friction which is certain to increase as the consequences of overpopulation become more seriously felt in the unfavoured countries. To these, territory suitable for colonization will become necessary for their national existence and the possessors of it the objects of a dangerous envy.

Therefore, unless this reasoning is utterly fallacious, there seems only one conclusion—that nations beginning to suffocate in the depressing economic atmosphere caused by overcrowding at home will not tolerate any dog-in-the-manger attitude on the part of those countries that,

having abundant territory, manifestly fail to utilise it. Such will be expected to justify their possession by effective occupation or they will be obliged to ensure it by force of arms, a doubtful expedient if the first essential, manpower, is lacking.

This argument has a particular application to the Empire because most of the land available lies within the territories of the Dominions. Thus the settling of these empty lands with people of British stock is no less imperative from the point of view of Imperial Defence than from the standpoint of trade and race. The ultimate alternative is a flood of alien immigration, entailing possibly the sacrifice by the Dominions of their economic and social standards, and the creation of a polyglot population having no special sympathy for the British Commonwealth of Nations.

Empire settlement is subject to a variety of factors, ranging from government policy and the trend of social legislation to the development of communications, the creation of markets, and the choice of settlers. All of these have a bearing on the problem of defence in so far as they tend to encourage or retard the movement of population overseas; but some have a more intimate connection in that they cannot fail to influence the present contributions and future attitude of the Dominions towards safeguarding the Empire. Some of these it is now proposed to consider.

Before the Dominions can accept settlers in any numbers adequate communications are necessary. Since these must be developed in anticipation of requirements and not, as in the case of older countries, to satisfy an existing demand, a considerable time must elapse before any return can be expected from the capital sunk in them. Settlement, in short, is not possible without railways, and since railways cannot pay without settlers the Governments of the Dominions have in most cases been forced to take the place of the private investor, the result being that railway debts and deficits are a heavy burden to the State, and can only be met by restricting expenditure elsewhere. To decide under these circumstances what portion of the budget to devote to defence is extremely difficult, for if military disbursements are heavy they correspondingly diminish the amount available for opening up the country and attracting settlers, thus augmenting its man power and developing its resources, in other words, increasing its defensibility.

The settler himself must also be considered. The Dominions at the present time can only absorb a limited number of artisans, their first need being for people to go on the land. It is only after agriculture has been firmly established that there will be a solid foundation on which to erect manufacturing industries which, in their turn, will provide employment for immigrants unwilling or unable to devote themselves



to farming. Unfortunately, from this point of view, the vast majority of the people in the British Isles have been brought up in cities and have been obliged to live under conditions which have ill equipped them for the work and environment which life on a farm in a new country entails. The result is that the Dominions have shown a marked preference for farm workers, that is, for the one class which this country lacks, and only in recent years have other classes of British men and women been given opportunities of training for life on the land overseas.

Nor does the difficulty of obtaining British emigrants end here. Generally speaking the intending settlers have little or no capital and in order to give them a start it has been found necessary to help them not only by means of reduced passages but also by considerable financial assistance, in the form of long-dated loans and special credit facilities, when they reach their new home. Though eventually this money, or much of it, will be repaid, the finding of the necessary sums constitutes an additional drain on the present resources of the Dominions.

Therefore in spite of the fact that these islands are rapidly becoming overcrowded it is impossible to "bring the willing hands and empty lands together" by any system of mass movement of population. Indeed Imperial migration can only be effected gradually (though with a steady acceleration) and at a considerable cost for training and for establishing the settlers, a large share of which expense must fall upon the Dominions.

Another charge on Dominion resources is the development of markets. It is of little use placing people on the land if there is no market for their produce. The creation of markets must therefore take place concurrently with land settlement. The power of the purse is as important in war as in more peaceful activities, and the successful establishment of sufficient markets for Empire products will not only increase the power of the Dominions to absorb settlers but will provide them with the wealth necessary for the prosecution of more effective defensive measures.

In the face of modern competition, however, it is difficult and costly to develop fresh markets and it is impossible to retain them unless there exists an effective means of guaranteeing a steady supply of goods of high and uniform quality. The Dominions, entering late into the field, are finding it necessary to adopt an extensive system of inspection and grading to ensure the initial attractiveness and continuing popularity of their products. Though this is money well spent, it can be found, under present conditions, only by economy elsewhere.

From this brief examination of the economic aspect of the problem it will be realized that in filling up their vacant lands the Dominions are faced with a heavy outlay and that in estimating the value of the



part they bear in Imperial Defence it is not possible to ignore the steps they are taking to develop their respective territories. In fact, until they have the reserves in men, money and material to enable them to undertake defensive measures on a scale sufficient to insure their safety, they are contributing more surely to their defence by creating those resources than by embarking on a programme of heavy military expenditure. Because of this, the balance sheet method of comparing defensive measures on the basis of cost per head conveys but an inadequate idea of the contribution of the Dominions.

If the economic factor is first in order of importance in considering the relationship between Empire settlement and Imperial Defence the second factor is unquestionably the foreign immigrant.

So far, foreign immigration has taken place on a serious scale only in the case of Canada, but it seems certain that the movement must sooner or later embrace the other Dominions as well. Though not encouraged, in the sense that British immigrants are encouraged, foreigners are seeking admittance in rapidly increasing numbers, and though in certain special cases, for example, the exclusion of Orientals from Australia, restrictive measures have been adopted it is difficult to see how the Dominions can make these of universal application while their need for settlers is so great. Such measures are, in any event, unsatisfactory and possibly dangerous expedients since they are apt to react unfavourably on international relations. Consequently immigrants from Europe may be expected in varying numbers in different Dominions, where they constitute a most difficult problem. The reason is not far to seek.

On arrival, the foreign immigrant finds himself amid strange surroundings and bewildering conditions, he hears a language which he does not understand, and he is subject to laws with which he is unfamiliar. On top of all this he is often regarded with some suspicion and not a little good-natured contempt. It is only natural, under these circumstances, that he should gravitate to those of his fellow countrymen that have preceded him. The ties of race and language are strengthened in the presence of strangers and thus are laid the foundations of little foreign communities which, held together by bonds of common origin, similarity of outlook and identity of interests, offer a steady resistance to all attempts made to absorb them into the national life.

The question of the children is hardly less difficult. The first language they learn is that of their parents, and they not infrequently reach the school age knowing no other. Their education is therefore no easy matter for not only must they learn the three R's but they must first learn the language in which they are taught. Even when, as is sometimes the case, the community establishes schools of its own the problem is not

made easier, for these schools tend to perpetuate differences which it is necessary, for the good of the country as a whole, to eliminate.

The welding of the foreign settler into the nation is a serious undertaking extending over two or more generations, and when at last a Canadian or an Australian citizen has been created, will his horizon extend beyond the borders of his Dominion? It is difficult to say. But it must be remembered that his mother land will not be Great Britain, but Germany or Austria, or Sweden or some other country as the case may be, and that his history and traditions will not be our history and traditions; these facts must influence his outlook on Imperial relations.

Particularly will they influence his attitude towards foreign policy and, since military policy is but a reflection of foreign policy, his attitude towards Imperial Defence. Each of the Dominions has its own particular problems and these are not necessarily identical with those of Great Britain. Canada, for instance, is concerned with the danger of economic domination by her Southern neighbour; Australia and New Zealand with the problem of maintaining a "white man's country" in the comparative isolation of the Pacific; South Africa with her hinterland and its rapidly increasing black population; and Great Britain herself with her line of communications to India through the Mediterranean. These can hardly fail to affect the angle from which each regards foreign states, with the result that a common Imperial foreign policy can only be formulated in a spirit of compromise and of "playing for the side." Where people of British stock predominate in the overseas Dominions failure to agree on basic principles is hardly conceivable, and common action in times of crisis can be confidently anticipated, no matter how much family squabbling may take place in normal times.

But what if the alien should predominate? The Dominions have responsible government and, however deplorable the consequences, their policy must, in the long run, reflect the wishes of the majority. For this reason the future of the British Commonwealth is threatened as much by the peaceful penetration of the foreigner as by warlike invasion, and the security of the Empire depends as much on measures adopted to ensure ascendancy of British ideals as on the provision of fighting forces.

The ascendancy of British ideals throughout the Commonwealth can most obviously be secured by so ordering immigration that the British outnumber those admitted from foreign countries. To achieve this it is necessary for the Dominions, on whom the decision rests, either to enforce restrictive measures, such as the quota, against the alien, or to rely on a liberal policy of encouragement to attract settlers from this country on a scale sufficient to ensure the predominance of British stock. For reasons already stated they have, with certain exceptions and reser-

vations, preferred the latter course, which is one calling for our whole-hearted co-operation if the desired results are to be obtained.

Successful or not, the ultimate effect of this policy must be the dilution of the population, and the greater this is the more urgent it becomes to convince the stranger within the gates that membership of the Imperial partnership is a paying proposition and its continuance a matter of personal concern. To do so it is necessary to overcome his national prejudices by educating his opinion and influencing his outlook. Herein lies the importance of propaganda, with its stock-in-trade the film, the wireless and the press.

The foreigner, with different standards and traditions and with sympathies unfettered by the ties which bind the Dominions and the Mother Country to one another, can hardly be expected to realise what the Empire stands for if the news he reads, the films he sees and the broadcasting he listens to are foreign in source and bias. On the other hand, the same instruments, properly developed and intelligently directed with the definite purpose of bringing home to the lately acquired citizen the advantage of belonging to the British League of Nations and the object of its policy, are largely capable of contributing towards that broad and tolerant outlook which the diversity of that League demands.

The problem though not new, has gained in recent years a prominence it did not possess before the war. The connection between Empire Settlement and Defence is threefold. In the first place the vast territories awaiting development offer a great temptation to the land-greedy or land-needy and therefore constitute a possible cause of war ; in the second place their development is costly and this affects the amount of money available for other purposes, including defence, and, thirdly, the unavoidable introduction of an alien element sows the seeds of disruptive influences, to combat which a considered policy of propaganda is necessary. But the defence of the British Commonwealth of Nations involves a consideration of other than purely military factors. Yet if we only remember that, for us, man power depends on settlement and co-operation on the settler, it will be easier to appreciate the urgency and difficulties of Empire Settlement from the point of view of Imperial Defence.

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## NAVAL MEN AS EMPIRE SETTLERS

The following letter from Admiral-of-the-Fleet Earl Beatty appeared in *The Times* of 24th January last:—

SIR,—In *The Times* of 31st December, 1927, appeared a statement attributed to the Australian Director of Migration, that "we are anxious that our vast empty spaces, which must be occupied, should be filled by settlers from Great Britain." This sentiment is most commendable and, coming from such a source, gives reason for great hope. I should be grateful if I might be given the opportunity of expressing the view that no better type could be found as settlers than ex-naval men.

So far as I am aware there exists at present no inducement, and very little opportunity even, for these men and their families to settle in our Dominions. It is unnecessary for me to testify to the sterling qualities of men who have served in His Majesty's Navy, but I have recently received a piece of information which has a very direct bearing upon this. It is to the effect that the physical and mental standard in the schools attended by their children in the three naval ports is a very high one, superior indeed to that of other schools under the local authorities. I have every reason to believe this to be true, and the fact that entry into the Navy is made by selection of only the fittest of large numbers of applicants would lead one to expect this.

Throughout his Service career, the bluejacket is kept at a high standard of physical fitness, and his training renders him particularly adaptable, and I believe it to be recognised that in opening up new territories the most successful settlers are those who can turn their hands to anything. My object is in no way to appeal to our fellow-subjects overseas for charity for ex-naval men, but only to voice my belief that they would prove a very fine asset to any Dominion in which they could be given an opportunity of becoming settlers.

The age limit for entry to the Government training camps at Claydon and Brandon has recently been raised to thirty-five years, and this welcome change will enable men who have completed their twelve years engagement in the Navy to undergo training at these camps, and it is to be hoped that a great many of them will take advantage of this.

I am fully aware of the tendency which exists in the Dominions for the population to drift into the great cities, but I feel that the type of man about whom I am writing has the qualities of self-reliance and perseverance which would render him less liable than some others to be beaten by the difficulties which confront the settler in undeveloped territories.

There is, of course, much to be done in the way of forming village communities which would offer the ordinary amenities of civilization and social intercourse, but this is a question upon which the Dominion Governments have access to much more knowledge and experience than I have.

The seeds of the Empire were planted by the seafaring population of these islands, and I am convinced that the spirit of pioneering and adventure is by no means extinct. In short, I feel that our ex-naval men, with reasonable inducements and facilities, would prove worthy citizens of any Dominion of the Empire.

Very faithfully yours,

BEATTY.

[Correspondence and Short Articles on the subject of Empire Settlement for Service Officers and Men are invited.—EDITOR].



## THE INTERNATIONAL SITUATION

### UNITED STATES.

#### FOREIGN RELATIONS.

**T**HE foreign policy of the United States cannot fail to be modified or at least influenced, by recent political developments in that country. The course of these events has been the following:—

In April, 1927, M. Briand, the Foreign Minister of France, approached the Government of the United States with a proposal to enter into a "bi-lateral pact" of non-aggression. The title of this proposed instrument was to be a "Pact of Perpetual Friendship" between the two countries. M. Briand's offer was perhaps somewhat vague and not altogether deeply studied. The United States, however, did not altogether approve of the proposed arrangement, arguing that, whatever the relations existing between France and the U.S.A. might be, such a pact might provoke an awkward situation, should France find herself at war with a third party. In other words, the United States do not altogether contemplate with equanimity the possibility of "taking sides" in an European dispute, nor of seeing their commercial liberty impeded in the event of another European war.

The American reply tendered to the French proposal took the form of a counter offer of a "multi-lateral" treaty, that is, a treaty of a like nature in which other European Powers, in addition to France, would be invited to participate. This proposal did not appear to meet the French point of view. It was urged that such a treaty might create a very complicated situation in relation to France's position and obligations under the Covenant of the League of Nations. It was even suggested in France that the United States might just as well join the League.

At the same time there was the fact that the so-called Root Treaty of 1908, which has since that date governed certain relations subsisting between France and the United States, is due to expire on 27th February of this year. Mr. Kellog, the American Secretary of State consequently addressed to France a proposal for the renewal of the Root Treaty. It is believed, moreover, that the intention was that, in the event of any modified renewal of the Root Treaty being carried through, the new draft should serve as a model for the enactment or renewal of similar agreements between the United States and other Powers.



This proposed draft turned on three main points :—

- (a) It contained a declaration of a mutual abhorrence of war and a renunciation to have recourse thereto. In this respect it followed M. Briand's proposed Pact of the previous Spring ;
- (b) It reinforced or adopted certain provisos of the so-called Bryan Conciliation Treaties of 1914 ;
- (c) It contained certain clauses touching on arbitration.

It was in this last matter that the crux of the Treaty was found to reside. The United States proposed that all juridical matters should be referred to the Hague Tribunal, but desired to make reservations on the following points :—

- (a) Matters of an internal or domestic nature ;
- (b) Disputes involving third parties ;
- (c) Questions possibly bearing on the Monroe Doctrine.

The French point of view was not altogether satisfied. It was argued that the conditions were so loose as to leave too many of the possible matters to be referred to arbitration altogether optional on the American side.

The next step appears to have been an invitation on the part of the United States to France that both countries should combine in elaborating a comprehensive universal treaty "renouncing war as an instrument of policy."

The whole matter is not without interest to Great Britain, since she, also, is pledged to the United States by an analogous Root Treaty, first signed in 1908. This has already been renewed on two or three occasions and is due for further renewal in June, 1928. There also exists a similar agreement in force between the States and Japan which will come up for renewal in August of this year.

The specific terms of these treaties need not trouble the general reader ; it will suffice to state that they deal in general terms with matters relating to arbitration, with the main proviso that such matters should not affect "the vital interests, the independence, or the honour of the two contracting States, and do not concern the interests of third parties."

These three Treaties were confirmed by the so-called Bryan Conciliation Treaties of 1914.

Since then the question has been complicated by the pledges that have been assumed by all these contracting States—with the exception of the United States—under the Covenant of the League of Nations, or of the Locarno Treaties. The view is now put forward in France that these more recent agreements might well form the basis of new Treaties to which the United States might without difficulty subscribe.

M. Briand has now replied formally to the American counter proposal to the effect that he can see no reason why a "bi-lateral Treaty should not be renewed without any further difficulties between the United States and France, but that the idea of a wider "multi-lateral" Treaty, embracing other Powers, requires much further consideration before being acceptable to France.

The French Press, with its customary logic, remarks that the proposals only add to the numerous paper guarantees of peace, without getting nearer to the core of the problem, while hinting that these moves of Mr. Coolidge's administration are clever blinds to cover up the failure of the Geneva Conference, and perhaps not disconnected with internal American politics.

The situation thus arises that there are two proposals for new treaties in the air at once: the renewal of the Root Treaty of 1908 and the new proposed "multi-lateral" pact of non-aggression. France, always thinking of the question of her own "security," is obviously dissatisfied. Provided that she obtains a renewal of the Root Treaty of 1908 on terms that she considers will enhance her feeling of "security," little else may matter. But the moment that she sees a prospect of the Root Treaty being weakened, together with the possibility of a new Treaty, or series of Treaties, being entered into by the United States to the possible detriment of her own position, she may grow still more suspicious. The French Press reflects the feeling in certain quarters that the United States are manœuvring to institute a series of Treaties which might supplant the work of the Covenant of the League of Nations.

The French official reply to the American proposal of the Root Treaty has been received at Washington. The French, it is said, desire to accept the three American provisos to the arbitration clause of the new Treaty (mentioned above) on the understanding that the United States will accept a fourth proviso relating to limitations imposed on France as signatory to the Covenant of the League of Nations. The matter is still under consideration at Washington.

But the question of the "multi-lateral" pact has advanced further. Mr. Kellogg replied to the French Government that he failed to see why the American proposal should be so unacceptable to the French Government, and again urging an early settlement of the matter. A reply from M. Briand virtually repeats the former French views; and there the matter now seems to rest.

There is, however, reason to expect that a less ambitious and more definite renewal of the Root Treaty of 1908 will materialize even though it be delayed.

Meanwhile it would appear that the British Government, in the matter of a multi-lateral and universal Treaty, agrees with M. Briand's views as to the necessity of safeguarding all British pledges undertaken in consonance with the Covenant of the League of Nations and with the Locarno Agreements.

#### NAVAL POLICY.

Since the failure of the Naval Conference at Geneva last summer, the "big navy" supporters in the United States have intensified their activities and it is evident that these have not been without their effect on Mr. Coolidge.

The President still proclaims the pacific intentions of his country and maintains that American naval aspirations are purely defensive in character; but it is difficult to understand why, in view of these protestations, he should support the proposals for a huge cruiser programme. It is remarkable, too, that suggestions for limitation of armaments and for pacts to "outlaw war," which have emanated so frequently of late from the other side of the Atlantic, should be accompanied by the presentation to Congress of a gigantic programme for warship construction.

To some extent the situation illustrates the contrast between foreign policy and home politics in the United States and the latter, possibly, are coloured by the approaching Presidential election campaign, but it is evident that the real aim of the "big navy" party is to create so powerful a fleet that in any future war America, even as a neutral, need not tolerate interference of her seaborne trade by any other naval power.

In his Message to the seventieth Congress on 6th December, 1927, President Coolidge made reference to the failure of the Geneva Naval Conference, and to the responsibilities of the United States, to meet which she required "a very substantial sea armament." The Message continued: "This country has put away the Old World policy of competitive armaments. It can never be relieved of the responsibility of adequate national defence. We have one treaty, secured by an unprecedented attitude of generosity on our part, for a limitation of naval armament. . . . We know now that no agreement can be reached which will be inconsistent with a considerable building programme on our part. . . . We have a considerable cruiser tonnage, but a part of it is obsolete."

#### THE NEW PROGRAMME.

On 10th December, the annual report of the Secretary of the Navy, Mr. Wilbur, referred to the failure of the Geneva Conference as making

necessary a building programme "to meet our legitimate requirements for national defence, and to maintain the five : five : three ratio in cruisers and aircraft carriers." On 14th December, it was reported that Mr. Wilbur had transmitted to Congress his naval building programme, which is ultimately to cost more than 700,000,000 dollars (£140,000,000). The programme was stated to call for the construction of twenty-five light cruisers, nine destroyer leaders, thirty-two submarines, and five aircraft-carriers. The Secretary estimates the cost of the various units as follows:—Light cruisers, £3,400,000 each; destroyer leaders and submarines, £1,000,000 each; aircraft carriers, £3,800,000 each. The bill to give effect to this programme deals with authorization only. The President is to have authority to suspend construction in the event of an international conference being called for the limitation of naval armaments.

#### PRESENT STRENGTH OF U.S. FLEET.

At the time this programme was put forward, the strength of the United States Navy in the classes of vessel referred to was:—Cruisers, 32; destroyer leaders, nil; submarines, 121; and aircraft-carriers, 1. There were under construction:—Cruisers, 5; submarines, 3; aircraft-carriers, 2. There were also projected, cruisers, 13; destroyers, 12; submarines, 4. Of the thirteen cruisers, only three had been authorized, so that presumably the remaining ten are incorporated in the programme now submitted. The five cruisers building and three projected are all of 10,000 tons, and as all the twenty-five proposed new cruisers will be of similar tonnage, the programme, if carried out in full, would provide the United States with thirty-three "Washington" cruisers. In addition, there are ten 9,000-ton cruisers of the "Omaha" type constructed since the war, giving a total of forty-three post-war cruisers. Other vessels in the class are twenty years old or more.

#### THE PAN AMERICAN CONGRESS, 1928.

**T**HE Pan-American Conference opened at Havana, Cuba, on 16th January. It was inaugurated by a formal speech of President Coolidge, who had arrived there attended by a number of prominent officials from the United States' Department of State at Washington.

The President's speech was not remarkable for any pronouncement bearing on the position of the United States in the American Continent. Rather he touched upon the destiny of the Western Hemisphere, "free from the traditional jealousies and hatreds of the Old World." He emphasized American respect for the sovereignty of small nations, while



speaking of the ideals of the Western World, which "no one can discharge for us."

After making this speech, the President returned to Washington and the Conference continued. Two proposals were subsequently made that are not without a bearing on the topic of the intervention of the United States in Nicaragua. The first is a proposal emanating from Salvador for the creation of a universal treaty of compulsory arbitration. The second, coming from Mexico, affects the constitution of the Pan-American Union at Washington. The first of these was immediately countered by the United States declaring that such a treaty would have to follow the same lines as that under consideration between the States and France, and would involve the same reservations as to subjects excepted from arbitration.

It was evident, though, that even this modified scheme would be unlikely to materialise, unless preceded by some declaration as to the rights of the United States concerning intervention in the affairs of small States.

Meanwhile, the chairman of the United States delegation, has made an after-dinner speech, in which he touched upon the Nicaraguan problem. He declared that his country intended to respect the territorial integrity of the small States, and to "encourage stability in the interest of independence." He went on to say that the States had intervened in Nicaragua at the instance of both parties also in the interests of peace, order and a fair election. "We entered the country to meet an imperative but temporary exigency, and we shall retire as soon as it is possible." He also contended that the United States confess to an economic Imperialism "tempered by stirrings of conscience." Nothing was said about any legal definition as to any rights of interference on the part of the United States.

On the whole, however, the questions at issue were juridical and still more economic—just as was the case at Santiago in 1923. But the outcome of this Conference might be different. The Latin American Republics—to quote *The Times*—"have no complaint to make of a Monroe Doctrine which denied the right of colonization to Europe, but a Monroe Doctrine which should deny the right of capital investment to Europe is another matter. . . . Under Presidents Wilson and Coolidge, Latin-Americans have seen political intervention in lands bordering on the Caribbean; they have seen intervention in Cuba, Haiti, San Domingo, Panama, Nicaragua, Costa Rica, Honduras and Salvador; they have watched the growing financial penetration of the United States in those countries by means of loans, concessions, and investments of many kinds, and they have not failed to observe that



America, who is steadily setting her face against "spheres of influence" in China, has created one for herself in Central America. In that region, not only would European intervention be resented, but even concessions to European capitalists could only be made on pain of the displeasure of the American State Department. And say Latin-Americans, "What is true of Latin-America to-day may be true of South America to-morrow."—*The Times*, 18th January, 1928.

### NICARAGUA.

**D**URING December further military activity manifested itself in Nicaragua. The United States Marines were reinforced by, it is said, 600 men, together with a few aeroplanes.

On 30th December a column of Marines, reinforced by 200 Nicaraguan National Guards, was ambushed near Quilali, which the rebel General Sandino regarded as his capital. This place was finally taken after some protracted fighting. Aeroplanes were freely employed, first to attack the enemy, then to drop supplies for the U.S.A. troops, as landing grounds are virtually non-existent in this heavily timbered district. The U.S.A. loss is given at about thirty. Aircraft were also used to remove the wounded. After a small emergency landing-ground had been cleared and levelled, one aeroplane took up the sick, while another engaged adjacent snipers.

Desultory skirmishing has since occurred. El Chipote, Sandino's headquarters, is on the strength of an aerial reconnaissance, believed to have been evacuated by him. This place is fifteen miles distant from Quilali. Sandino himself, according to another unconfirmed rumour, dated 21st January, is said to have been killed. It is, however, somewhat early to state that the "rebellion" is at an end.

### THE MACEDONIAN PROBLEM.

By LUIGI VILLARI, M.C. (*late Italian Liaison Officer, British G.H.Q., Salonika, 1916-18*).

**T**HE origin of the present difficulties in the Balkans can be traced to the situation created by the Berlin Congress of 1878. At that time both Russia and the Western Powers believed that the Bulgarians—a people of Finno-Tartar race, but Slavonic in language, civilization and feelings—if liberated through Russian intervention, would inevitably prove faithful vassals of Russia and act as her advanced

guard in the Balkans. Accordingly, by the Treaty of San Stefano of 1877 there was created a large Bulgaria. Then, at Berlin, Lord Beaconsfield and other opponents of Russian expansion were determined to quash that agreement. A compromise resulted, whereby a small autonomous Bulgarian principality, under Turkish suzerainty, was constituted. This comprised only a part of the Bulgarian people, which was divided into four separate compartments, viz.: autonomous Bulgaria; the semi-autonomous Province of Eastern Rumelia; the Dobrudja, assigned to Rumania; and Macedonia, left under direct Turkish rule, with the undertaking of the Great Powers that reforms would be introduced. This settlement was not destined to last. Eastern Rumelia, by a bloodless revolution, joined Bulgaria. The *fait accompli* was accepted by the Great Powers, but led to the Serbo-Bulgarian war, in which Serbia was completely defeated, and only saved by Austrian intervention. Since that date relations between the two peoples have remained permanently embittered, except during the short-lived idyll of the Balkan War of 1912.

From the outset Bulgaria had cherished aspirations towards Macedonia. The three peoples, Serbs, Bulgars and Macedonians, roughly speaking, belong linguistically to the Southern Slav group and all three are Orthodox Christians by religion. Historic events have separated Serbs and Bulgars; but the Macedonians stand, both racially and linguistically, about half way between these two, whereas, as regards political sentiments there is no doubt that the great majority incline to Bulgaria rather than to Serbia. Just as the Macedonians used to look to Bulgaria for assistance against the Turks, so to-day they look to her in their struggle against Yugoslavia.

Years before the Balkan wars there had been active Bulgarian propaganda in Macedonia, though it rather emanated from the Macedonians of Bulgarian sympathies than from the Bulgars of the Principality. Against the Bulgaro-Macedonian propaganda were pitted, on the one hand, the Turkish Government and, on the other, a counter-propaganda of the Greeks, who also laid claim to a part of Macedonia. Although the Greeks differed from the Bulgars by race and language, the quarrel in Macedonia centred around the control of the Church, which was claimed both by Athens and Sofia. These rival propagandas, from schoolbooks and liturgies, soon descended to a savage triangular struggle by means of rifles, revolvers and hand-grenades.

During this period Serb propaganda in Macedonia was practically non-existent, except in parts of the northern vilayet of Uskub, but the Bulgarian movement was conducted by the powerful and ruthless O.R.M.I. (Organization révolutionnaire macédonienne intérieure). In

1903, exceptionally severe Turkish persecution goaded the people into a regular rebellion. Although crushed for the time being, the agitation continued to smoulder underground. The Macedonians of Bulgarian sympathies aspired to union with free Bulgaria, or, failing that, to the creation of an autonomous state; those of Greek sympathies desired union with Greece, but might have accepted autonomy instead. The rest of the people merely asked that its life be rendered more tolerable, while the Moslems (pure Turks, and all others converted to Islam) desired the maintenance of the *status quo*. The attempts of the Great Powers, to which Great Britain was a party, to introduce reforms by means of an International Gendarmerie, failed on account of the obstructive tactics and clever intrigues of the Turkish authorities. Then came the new régime of the Young Turks, which proved no less oppressive than the old, and so rendered possible the unexpected coalition of the Balkan States. The War of Liberation of the Christian populations in the Balkans still under Turkish rule was the consequence.

As a result of the two Balkan wars (1912-13), Macedonia was freed from the Turkish yoke, but in spite of its predominantly Bulgarian sympathies the greater part was divided between Serbia and Greece, only a small district in the extreme South-East being assigned to Bulgaria. Rumania, which had intervened on the side of Greece and Bulgaria at the last moment, obtained as compensation an extension of her frontiers in the Dobrudja at the expense of Bulgaria.

Once in possession, Serbia adopted the policy of "Serbification" described in the report of the Carnegie Commission. On the outbreak of the World War, Bulgaria hesitated as to which side, if any, she would espouse, and her final decision was inspired by one sole consideration—Macedonia. If she decided to throw in her lot with the Central Powers, it was because she was convinced that they offered her a greater probability of securing the coveted prize than did the Entente. Germany and Austria, already at war with Serbia, had no difficulty in promising that in case of victory Bulgaria should have not only the whole of Serbian Macedonia (to which Greek Macedonia would be added, should Greece join the Allies), but also some districts of Serbia proper. Finally, when Rumania entered the war, Bulgaria conceived hopes of recovering the Dobrudja as well, although it was not expressly promised to her. The Entente Powers, on the other hand, only made vague promises, as they could not induce Serbia or Greece to offer to renounce any of their territories and did not like to insist on their doing so.

At the end of the war, Bulgaria was utterly broken and forced to accept all the conditions of the terms of the Treaty of Neuilly, i.e., to disarm, to undertake certain payments towards reparations, and to hand

over certain Bulgaria territories to her neighbours. Rumania retained the Dobrudja, Yugoslavia secured the districts of Tzaribrod and Strumitza besides that part of Macedonia which she had previously held. At the San Remo Conference (April, 1920), Western Thrace, provisionally held by the principal Allied Powers, was assigned to Greece, and, although commercial outlets on the Ægean were promised to Bulgaria, this undertaking has not yet been carried out.

Much as the Bulgarians regretted the loss of these territories, the fact that she had renounced Macedonia constituted far more than a material loss. Although a comparatively poor country (except for a few fertile districts), Macedonia has a sentimental importance for Bulgaria which it is difficult for the Western mind to understand. Moreover, owing to racial affinities, common historical traditions, and the fact that Bulgaria was the only country where Macedonians oppressed by alien rulers always found refuge, Bulgaria, ever since its independent existence, has been under the incubus of the Macedonian problem. It is estimated that in Bulgaria, out of a total population of 5,483,125, there are to-day some 350,000 Macedonians, many of whom have been settled for a generation or longer. As they were usually the more intelligent and better educated of the Macedonians, they quickly secured positions of influence in all State services, in business, and in intellectual life. No Government, even if its sympathies were inclined that way, could afford to neglect this powerful Macedonian element.

To-day the greater part of the Macedonians of Bulgarian sympathies are in the provinces ruled by Yugoslavia. Greek refugees from Anatolia, as well as Greeks formerly living in Bulgaria, have been settled in Greek Macedonia, while most of the Bulgarian Macedonians have emigrated to Bulgaria. This movement is partly the result of free migration, but partly of international treaties and of Government action. Between Yugoslavia and Bulgaria there has been no such exchange of population, for the Yugoslav Government refuses to admit that there is such a country as Macedonia—it is now officially styled "Southern Serbia"—nor a Macedo-Bulgarian population. Were the Macedonians of Yugoslavia to enjoy some measure of autonomy, or were they governed in a manner which they would regard as tolerable, the problem would at all events be rendered far less acute. But the Belgrad Government deems that it cannot afford any such measures. The reason for this policy is the position of the Serb element in the Yugoslav State. Out of a total population of 12,017,328 the Serbs proper, i.e., the Serbs of the old Kingdom of Serbia, are not three millions, yet constitute the dominating element in the Triune Kingdom and retain all positions of influence for themselves. Whereas in the army as a whole only 40 per cent. of the



men are Serbs in any sense of the word, the non-Serbs are excluded from practically all higher ranks. The same holds good in other Services. This position is becoming every day more difficult for the Serbs to maintain, as they are not only in a minority, but they cannot lay claim to a higher level of education than the other races in the country; the chief merit of the Serbs has always been their magnificent fighting spirit. The Serbs are therefore convinced of the necessity of increasing their numbers, and as the Serbification of their northern and western fellow-citizens is impossible, they have turned their attention to the inhabitants of "Southern Serbia," i.e., of Macedonia, where, it was believed, Serbification would be easier. Nine years ago it was claimed that Macedonia would be Serbified in ten years' time. This policy has been pursued with all the rigour of which a Balkan administration is capable, yet the end seems further off than ever.

This attempt at the forcible Serbification of the Macedonians is that all the more active and enterprising among them, either emigrate—chiefly to Bulgaria—or join the Comitadji bands acting under the powerful and redoubtable O.R.M.I. Those who do neither, sympathize with the Comitadjis and lend them every assistance, except the few who have adhered to the Yugoslav régime. While the authorities are determined to Serbify Macedonia, the Comitadjis are equally determined to resist this policy to the utmost. Arrests and executions are answered by assassinations of obnoxious officials and spies, and every fresh act of violence on either side leads to retaliation. At recent elections held in Macedonia, as no Macedonian or pro-Bulgar candidates would be allowed to stand, large numbers of Communist votes were recorded in spite of the pressure brought to bear by the authorities in favour of Serb or pro-Serb candidates; the real Communist sympathizers are almost non-existent in Macedonia, and Communism was merely a cloak with which to cover anti-Serb sentiments.

Were the conflict one between the Yugoslav Government and a part of its subjects it would not assume international importance. Owing, however, to its repercussions in Bulgaria and, above all, on Yugoslav-Bulgarian relations, Macedonia is undoubtedly a grave danger spot threatening European peace. The Yugoslav Government declares Bulgaria to be fomenting agitation in Macedonia and of allowing Macedonian plotters to organize on its own territory terrorist outrages to be committed in Yugoslavia. It alleges that were Bulgarian support to be withdrawn, the Macedonian societies in Bulgaria outlawed and their leaders arrested, the agitation in Macedonia would immediately cease. To this the Bulgarian Government replies that if Yugoslavia with its large army and police forces cannot effectively crush the agitation on its

own territory, Bulgaria, who has been forced to disarm, cannot be expected to guard her difficult mountainous frontiers so perfectly as to prevent the occasional passage across of them of individuals or even small bands, who are, moreover, supported and assisted by the peasantry of Macedonia on account of their hostility to Yugoslav rule.

A tragic aspect of the situation is that the Bulgarian Government, even if it wanted to do so, simply could not take any strong action against the Macedonians. Its existence and even the lives of its members would be immediately jeopardized. The Agrarian party, and the Communists, both strongly tinged with Bolshevism and notoriously financed and encouraged by Soviet Russia, might be prepared to sacrifice the Macedonians for the sake of their own political aspirations, while the scheme for the formation of a federated Southern Slav State, comprising both Yugoslavia and Bulgaria, has found some support.

When M. Stambulisky, the Agrarian leader, was in power he coquetted with the federalist idea and was believed to have agreed practically to sacrifice Bulgarian independence by the terms of the Nish agreement with Yugoslavia (March, 1923). His Government had also made itself very unpopular in Bulgaria for other reasons, especially for its tyranny of a strong Bolshevik tendency and its subservience to the Soviet Government. There is indeed little doubt that Stambulisky was supported by the latter, which hoped first to Bolshevize Bulgaria and then, through the realization of the South Slav Federation, to effect the same process in Yugoslavia. Stambulisky thus encountered violent opposition until he was driven from office by a *coup d'état* (June 8th-9th, 1923). The ex-Premier fled but was soon arrested, and while being escorted to Sofia his escort was overcome by some Macedonians who executed him.

The Tzankov Government found itself faced by a series of Agrarian and Communist plots and outrages, culminating in the bomb explosion in the Cathedral of Sveta Nedelia in Sofia (April 16th, 1925), which were repressed with great severity. Bulgaria in her present state could not face Yugoslavia in war. The Yugoslav army consists of 6,354 officers and 115,327 men, recruited by means of conscription, and is well provided with war material and ammunition. Bulgaria, on the other hand, may not, by the terms of the Treaty of Neuilly, have more than 20,000 men in the army, recruited by voluntary enlistment for twelve years, plus a voluntary frontier guard of 3,000 men and a mixed police force of 10,000 men—in all 33,000 men under arms, all told. Her artillery, war material and munitions are also strictly limited, and she has no highly developed industry in the country capable of being converted to war purposes. Nor could she easily secure armaments from abroad,

with the possible exception of Turkey. Bulgaria is thus not in a position to wage war against Yugoslavia, whereas Yugoslavia could attack her at any moment were she not restrained by other consideration. In this connection the League of Nations could play a useful part in preventing an outbreak of war. Since its prestige among the small Balkan nations is considerable, not one of them would dare to make war in the face of the disapproval of the League, provided the League, inspired by the Great Powers, were prepared to take a strong line of action for the prevention of hostilities.

It does not seem possible to achieve a really lasting peace in the Balkans and establish the peace spirit until some satisfactory settlement of the Macedonian problem is arrived at, i.e., a settlement such as will provide tolerable conditions of existence for the people of Macedonia, whatever their national sympathies may be.

## DENMARK

### THE DROGDEN CHANNEL TO THE BALTIC

THE Drogden Channel forms the easternmost but one of the four entrances to the Baltic Sea. It lies to the West of the Island of Saltholm (between Malmö and Copenhagen), to the East of which is the Flint Channel. The other entrances are the Great Belt and Little Belt.

Before the deepening of the Drogden was commenced, the depth of water (at L.W.O.S.) available in the four channels was as follows:

Flint . . . . .	23½ feet.
Drogden . . . . .	23½ "
Great Belt . . . . .	33 "
Little Belt . . . . .	36 "

It was originally proposed to deepen the Drogden to about thirty feet, but owing to the difficult nature of the bottom it has now been decided to increase the depth to twenty-seven feet only.

The work, which has been in progress for about three and half years, is being carried out partly by the State and partly by private contractors. As much as 8,000 tons of rock have been removed from the bottom, and pieces as heavy as twenty tons each have been blasted and dredged. The length of the completed channel will be 6½ kms., and the width about 250 metres. It is hoped, weather and other conditions permitting, to complete the work before January, 1928.

The Little Belt may shortly be closed to large ships owing to a proposal to build a new road and railway bridge connecting the island of Funen with the mainland.

## RECENT EVENTS IN CHINA.

*(Compiled from various sources.)*

THE sequence of the leading events taking place in China during the past autumn is given below. On the whole the situation remains just as uncertain and kaleidoscopic as ever, although signs are not wanting that a certain "war-weariness" has been making itself felt; whether this will be only a temporary condition is not clear.

The month of September was particularly quiet as regards fighting, a fact possibly due to harvesting being in progress over a large part of the country.

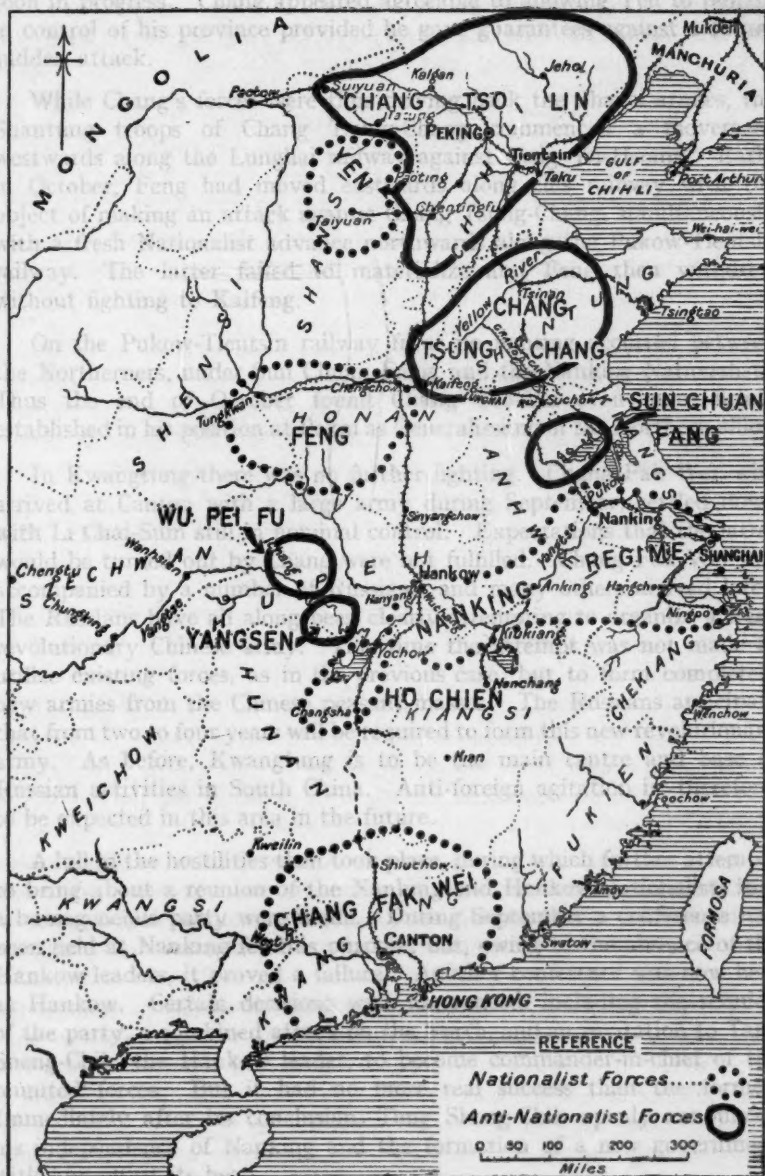
The month of October saw a renewal of hostilities, the most important being the campaign between Yen Hsi-Shan, the Governor of the province of Shansi, and Chang Tso-Lin, Generalissimo of the Northern allies.

For some years Yen had maintained an attitude of neutrality towards the Chinese civil wars. Although, during the Nationalist advance to the North in the summer, he announced his adherence to Kuomintang principles, he remained steadfastly opposed to Soviet influence. During July, Yen had moved eastwards into Chihli and occupied the important railway junction of Chentingfu on the Peking-Hankow railway. Chang endeavoured, without success, to bring him into the Northern fold with the object of making a combined attack on Feng Yu-Hsiang. At the end of September, Chang reinforced his garrison at Kalgan by two brigades. At the same time he also held up at Tientsin a consignment of arms destined for Yen. These measures were construed by Yen as hostile acts and he advanced from Shansi towards Kalgan early in October.

Subsequent information has made it clear that Soviet intrigues were responsible for the Shansi attack on Chang. It was hoped that Yen's attack would be successful but would leave him so weak that Feng would be able to advance on Peking without opposition. As Feng relies entirely on Russian support, the Soviet would ultimately profit by his arrival in Peking. Unfortunately for the Russian plan, Chang was strong enough not only to withstand the Shansi attack, but to force Yen to withdraw in confusion back to his own province. On the Kalgan front, Chang at once ordered the forward troops to withdraw to the naturally strong position of the Nankow Pass, thirty miles north-west of Peking. Reinforcements from Manchuria were sent up to envelop the Shansi forces on either flanks. Again, on the Peking-Hankow railway front, Chang sent his son to Paotingfu, with orders to compel the Shansi forces to withdraw from Chihli province.

These measures were successful, and by 15th October the Shansi forces, heavily defeated on both fronts, were in full retreat. Thus Yen's

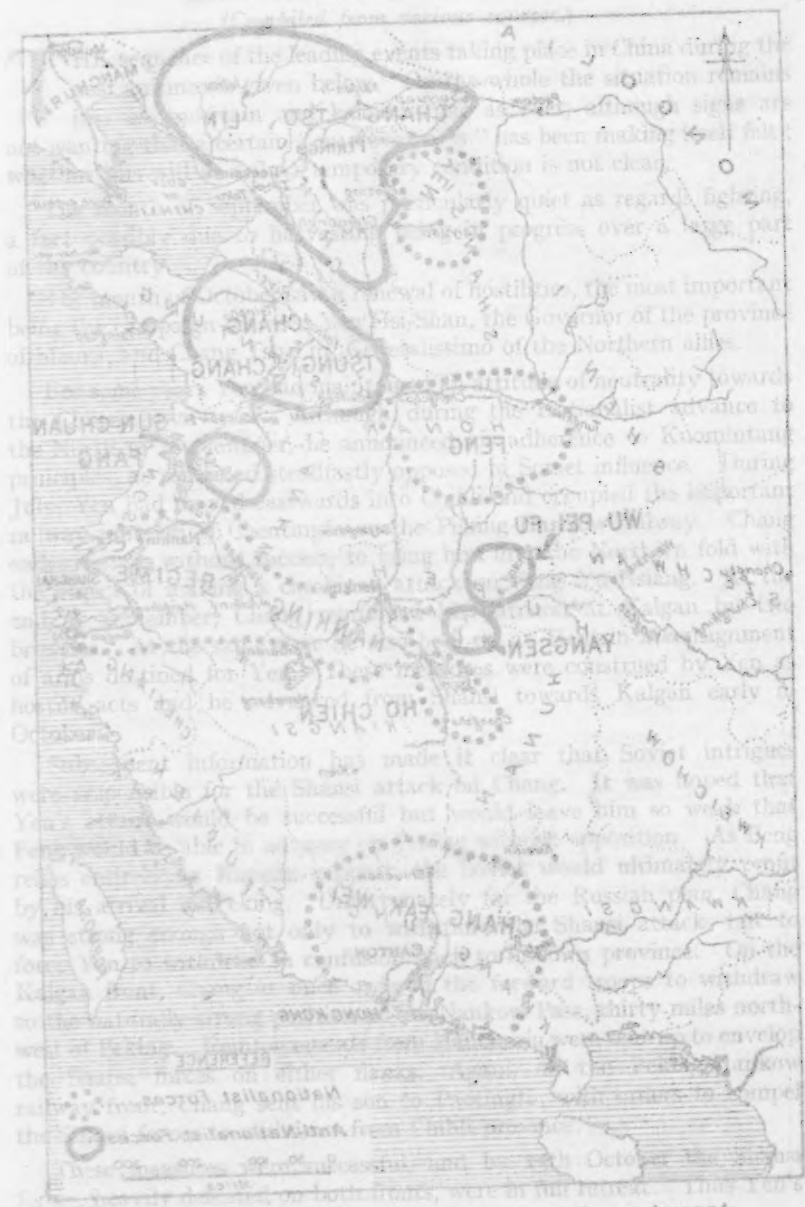




Approximate Spheres of Influence in China, December, 1927.

# THE INTERNATIONAL SITUATION

## RECENT EVENTS IN CHINA.



Approximate Spheres of Influence in China, December, 1927.

attack proved a disastrous failure, and discussions for peace terms were soon in progress. Chang appeared agreeable to allowing Yen to remain in control of his province provided he gave guarantees against a future sudden attack.

While Chang's forces were thus driving back the Shansi armies, the Shantung troops of Chang Tsung-Chang commenced a movement westwards along the Lunghai railway against Feng Yu-Hsiang. Early in October, Feng had moved eastwards along this railway with the object of making an attack against Chang Tsung-Chang, simultaneously with a fresh Nationalist advance northwards along the Pukow-Tientsin railway. The latter failed to materialize and Feng then withdrew without fighting to Kaifeng.

On the Pukow-Tientsin railway front no fighting occurred between the Northerners, under Sun Chuan Fang, and the Nanking Nationalists. Thus the end of October found Chang Tso-Lin even more firmly established in his position at Peking as Generalissimo of the Northern allies.

In Kwangtung there was no further fighting. Chang Fak Wei, who arrived at Canton with a large army during September, settled down with Li Chai-Sum still in nominal control. Expectations that the latter would be turned out by Chang were not fulfilled. Chang Fak Wei was accompanied by a number of Russians, and many others arrived later. The Russians have all along been clearly attempting to organize a fresh revolutionary Chinese army. This time the attempt was not made to utilize existing forces, as in the previous case, but to form completely new armies from the Chinese peasant masses. The Russians anticipate that from two to four years will be required to form this new revolutionary army. As before, Kwangtung is to be the main centre and base of Russian activities in South China. Anti-foreign agitation is, therefore, to be expected in this area in the future.

A lull in the hostilities then took place, during which further attempts to bring about a reunion of the Nanking and Hankow nationalists into a homogeneous party were made. During September a conference had been held at Nanking for this purpose, but, owing to the absence of the Hankow leaders, it proved a failure. Another conference was now held at Hankow. Certain decisions were announced, including the reunion of the party, a combined attack on the North, and an invitation to Tang Sheng-Chih, the Hankow leader, to become commander-in-chief of the reunited forces. But it had no more real success than the former. Immediately after its conclusion, Tang Sheng-Chih openly announced his independence of Nanking and the formation of a new government with himself at its head.

Thereupon the Nanking Government declared war on Hankow and commenced preparations to this end. Troops were transferred to the right bank of the Yangtze; Cheng Chien, the Chinese general responsible for the Nanking outrages, was appointed chairman of the Nanking Government Military Council; and an expedition moving up-stream on both banks of the Yangtze was launched against Hankow. On the right bank Cheng Chien was personally in command with three armies which, after taking Wuhu, moved up-stream towards Anking. On the left bank, a smaller force attacked and captured Anking.

By the end of the month the advance on both banks had progressed beyond Anking towards Kiukiang, whilst the Hankow forces were preparing to stand at Wusueh, twenty-five miles above Kiukiang. Gunboats were also employed by Nanking on the river to assist the expedition, whilst Tang is reported to have mined the river above Wuhu. A fresh element was now introduced into the quarrel by the report that Tang Sheng-Chih had transferred his allegiance to the Northerners. The quarrel between Nanking and Hankow has thus become merged into the older civil war between Northerners and Southerners.

Hankow was entered by the forces of Nanking under Cheng Chien on 16th November. Tang-Sheng-Chih, the Hankow Commander, fled from the city on the 12th, taking passage for Japan. The command of the remnants of his forces devolved on Ho Chien. By the end of the month Ho Chien's troops were still withdrawing up-stream, and were scattered over the Yochow-Changsha area and in western Hunan, pursued by certain Nanking forces.

On the 27th, dissension occurred amongst the Nanking generals in Hankow over the appointments to various lucrative posts. As a result, Cheng Chien resigned and was succeeded by Li Chung Jen. The quarrel also led to the abandonment for the time being of the pursuit of Ho Chien's forces.

Above Hankow, Yangsen moved down-stream some fifty miles, peacefully absorbing one of the Hankow armies on his way. He made no further attempt to attack or co-operate with the Nanking forces occupying Hankow, but is reported to have a detachment buying supplies in Hankow.

Yet another attempt was made during November to reunite the rival groups of the Nationalist party. A conference was called to meet in Shanghai for this purpose towards the end of November. By this time, Chiang Kai-Shek, who fled to Japan in August, had returned to Shanghai, and was prepared to join up with the Nanking régime again. There was also a new Nationalist régime in Canton under Wang Ching Wei, an old revolutionary and friend of Chiang Kai-Shek. Thus the



conference was to include representatives of the three existing Nationalist factions in South China—Nanking, Shanghai, and Canton—Hankow having by this time ceased to count.

The Canton representatives reached Shanghai on the 18th November. On the 24th, however, apparently mutual jealousies once again intervened, and it was announced that the conference had been postponed indefinitely. Thus there is still no central Nationalist Government in South China, but three mutually suspicious régimes.

Thenceforward the intrigues of the various factions have renewed and become almost unintelligible. Military activity has declined, although it was reported that Feng was actively pressing against the Pukow-Tientsin railway. At the end of December Chochow surrendered to Chang-tso-lin after a siege of seventy-nine days. Other phenomena took place. Wa-Pei-fu suddenly reappeared on the scene on the Middle Yangtze.

But the chief event of the period was a Communist rising in Canton that terminated in a most serious outbreak of looting, arson and violence of every kind. Li-Chai-sum, the Nationalist commander, absented himself to attend a conference. In his absence, Chang-Fat-Kwai, his substitute and a general of pronounced "Red" tendencies, seems to have disbanded some of his "Peasant Army." No sooner was this done than, on 11th December, these brigands, for they were nothing better, set to work. Repression was difficult. Troops were brought into the city from neighbouring districts and Li-Chai-sum returned. Order was restored by measures of drastic severity and Li-Chai-sum is now, more or less firmly, restored to power. He is said to be continuing his system of repression. In the country lying between Canton and Swatow a "Red terror" has also been active for the past two months.

Li-Fu-lin, a man of little authority, is now in command at Canton.

The most recent act in this never-ending drama is the return of Chiang Kai-Shek as commander-in-chief of the Nationalist Armies. He has promptly issued the following manifesto:—"I dare not forecast the result of my reappearance at this critical moment for our Party and country, when both are on the brink of collapse and the people are despairing. I only know the Northern expedition (against the Northern allies) cannot be further delayed, and the progress of the revolution cannot be interrupted."

The present situation is best summed up in the words of *The Times* :—

"The view has been expressed that as the North is in the field against the 'Red' menace, and as 'Red' influence has been purged from the Kuomintang, the cause for strife between the North and South has to

a great extent disappeared. Therefore in some quarters a truce with the North is deemed advisable to admit of the consolidation and recuperation of the South, preferably under Chiang-Kai-shek. Unless some degree of unity be restored in the South it is argued that the Nationalist movement may lose momentum altogether. Against this is the other view that all China is now Nationalist except Shantung, Chihli, and Manchuria, and that the Northerners are already hemmed in and ready to break before a combined thrust by Yen Hsi-shan (the Tuchun of Shansi), Feng Yu-hsiang, and Chiang Kai-shek.

"The military position in the North is, however, not so bad as it looks. The cold weather has practically put an end to operations against Shansi, Feng Yu-hsiang is persistently reported to be short of equipment, and serious campaigning is not to be expected while the Nationalists at Hsuechowfu are few in number and ill prepared for winter operations. The weak spot in the northern line is the condition of the Shantung army under Chang Chung-chang. Mukden forces have been sent down the Tientsin-Pukow railway to stiffen his rear and, for the present, the position in the mountainous area covering Tsinanfu is regarded as secure.

"What the spring may bring forth is another matter, but it is obvious that the Nationalists, with or without Chiang Kai-shek, will find it difficult effectively to pursue a campaign against the North until Hankow, Canton, and other places are in fuller accord with Nanking than they are at present."

## CORRESPONDENCE

### REGIMENTAL ALLIANCES.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—Keeping touch with the Dominion forces by means of regimental alliances of which "His Majesty the King has been graciously pleased to approve" naturally depends upon the personal efforts of individual regiments. There appear, however, to be certain common foundations upon which all regiments can build the bridge of contact. Such foundations can be laid in regimental magazines. The first stone appears to be to include the alliance on the cover or title-page of the magazine—in a form similar to that given under the title of each regiment in the Army List. The next would be to invite and publish contributions from the allied regiment of the particular Dominion. Without the laying of these two stones, it would seem not only that a breach of etiquette was being committed, but that no effort to keep touch was being attempted. And yet so many excellent regimental magazines seem to fail in this respect. It is a fact beyond question that regiments with magnificent *esprit de corps*, by fostering these regimental alliances, can help enormously both in maintaining the solidarity of the British Empire and in creating an Imperial spirit in His Majesty's Imperial Forces. Therefore, I venture an appeal.

Yours, etc.,  
LONDON. MILES.

[Note.—We would refer our readers to the Lecture by Lieut.-Colonel H. D. G. Crerar, D.S.O., Royal Canadian Artillery, on "The Development of Closer Relations between the Military Forces of the Empire," which appeared in the JOURNAL for August, 1926. Colonel Crerar, in dealing with inter-regimental liaison, suggested that "considerable benefit yet remains to be extracted from these regimental affiliations." He also said: "It is not enough that the Imperial Forces should be allies. We must make them far more than that; they must be parts of one and the same Imperial Army."—EDITOR.]

### CO-OPERATION OF LAND AND AIR FORCES: KURDISTAN, 1923.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—May I be permitted to comment upon some statements contained in the article "Co-operation of Land and Air Forces in Kurdistan, 1923," in reply to my article published in the JOURNAL for May, 1927, as certain of the writer's views appear possibly to be misleading.

1. The writer introduces the question of Ranicool, the unsuccessful column which, in 1922, operated in the same Rania district in which Koicol successfully operated in 1923. The composition of the two columns was as follows:—

*Ranicol, 1922.*

- 1 Regt. Levy Cavalry (Kurds):\*
- 1 Section Indian Pack Artillery.
- 1 Company Indian Infantry.

With Transport composed chiefly of a scratch lot of locally hired men and animals.

The only other troops in the vicinity were one other company of the same fine Indian Battalion (the 15th Sikhs), hastening to reinforce, but still two marches away when the last fight began.

*Koicol, 1923.*

- Staff and Headquarters.
- 1 Indian Pack Battery.
- 1 Company Indian Sappers & Miners.
- 3 Battns. Infantry (2 of them British).
- Signal Section.
- Field Ambulance.
- Mobile Veterinary Section.
- Indian Army S. & T. Units (supplemented by some locally hired transport.)

In addition, a Levy Column of 1 Section Pack Artillery, 3 Battns. Infantry and a 'M.G. Company was operating in the neighbourhood.

\*Note.—This unit, for one reason or another, was practically not available at all on the critical day.

The difference in the fate of the two columns is attributed to better co-ordinated air action in the case of Koicol, and to the fact that bombing had been carried on during the intervening months. This may be right. On the other hand, a consideration of the figures given above may suggest another alternative reason for the success of Koicol and the failure of Ranicol.

In one particular, at any rate, the writer's suggestions will not bear investigation; the enemy met by Koicol had actually become more, and not less, formidable, as he had been reinforced by Turks with machine guns.

2. The statement that the small amount of opposition encountered was primarily due to air action ahead of the column is surely rather a jumping of the claim, as it takes as proved the chief point at issue. It is asserted that the enemy "hesitated to attack" on account of air action; and that "the troops could never get at them." The first statement cannot be proved, while the second is incorrect; the troops did get at them; with both guns and M.Gs. Possibly the aeroplanes bombing ahead were more successful in finding the enemy than were those operating with the column; for in the case of the enemy engaged by the troops it was by these and not by the aeroplanes, that losses were inflicted.

3. The admitted "inability of aircraft to discover snipers" is strong support for the contention that picqueting must be done by the troops, regardless of what is done from the air. No ground which it would be dangerous for the enemy to hold can be left unoccupied on the assumption that it is being dealt with from the air. If that be so, the possible reduction in the number of picquets is practically nil.

4. It is, of course, a fact that the Air Officer Commanding did at times make personal visits to the columns by air, but this has little bearing on the original statement that aeroplanes could not land in the hills so as to enable their occupants to discuss plans with the column commander. During the march from Serkhuma to Benawi, and back to Girde Tilleh, two aeroplanes only "landed"; one, making a trial landing, was completely wrecked; the engine of the other failed, and it crashed badly near the column.

5. With regard to supply from the air, the account of the attempt at Benawi (not Serkhuma) is correct. The supplies were dropped partly from the bombing-racks of the machines, but the greater part from Vickers Vernon machines themselves. The proportion that reached the column is, of course, a matter of opinion.



Quite recently an officer who watched the whole performance estimated it at one-tenth of what was thrown or dropped from the machines; the writer would have put it at a slightly higher figure. Nothing approaching 7,500 pairs of socks came to hand on that occasion. The O.C. Camp on that occasion was the present writer.

6. The evacuation of the sick by air was under the circumstances the only possible method, yet was only effected after considerable delay. What is questioned is the soundness of trusting entirely to the air for such evacuation from a force which may have to do serious fighting, and which is operating for days on end—as was Koicol—in country where aeroplanes cannot land.

Finally, it is not clear how it should come to be imagined that the success of the 1923 operations were attributed by me to good luck, and not to good management. Neither is it clear why it should be thought that I was under the impression that the methods applied in Kurdistan in 1923 would always be used in small wars. The point is that successful though they were there, they are not suitable against a more efficient enemy. The question at issue is whether the undoubted success of the operations was primarily due to the R.A.F. bombing, or whether it may be ascribed to the figures given in para. 1, and to the skill of the column commander. The writer has, of course, no authority to speak for any member of Koicol except himself. Still he was with the column, without a day's absence, from its formation at Mosul until the last remnants of it returned to that city, and he has no doubt whatever as to what was the opinion of the column at the time. He also had the opportunity of seeing for himself what the effect of some of the bombing actually had been, after having first heard the official estimate of the damage done from the bombers themselves.

Yours, etc.,

G. P. MACCLELLAN,

Lieut.-Colonel.

#### FIGHTING CAPABILITIES OF THE ARMED MERCHANT CRUISER.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—I read with interest in the November number of the JOURNAL the letter of Captain Lockyer on the lessons to be drawn from the action fought on the 14th September, 1914, between the armed merchant cruisers "Carmania" and "Cap Trafalgar." The courage and fine seamanship displayed on this occasion by the "Carmania's" officers and crew are worthy of the greatest praise. Had the armament of the "Cap Trafalgar" been as stated by Captain Lockyer, this action ought to be recorded in history as a brilliant example of a successful single ship action.

Captain Lockyer is fully entitled to his opinion, but the historian is bound to accept the best evidence available. I could cite numerous instances where officers have absolutely denied statements that have appeared in the Official Histories until confronted by the actual reports of the events, recorded over their own signatures.

In this particular case the best authorities are the German Official History and the head of the German Marine-Archiv. According to the former the "Cap Trafalgar" was fitted with the "Eber's" armament of two 10.5-cm. (4.1-in.) guns and six 3.7-cm. (1.4-in.) machine guns, which corresponds to the armament given in the British Official History. The two rifle-calibre machine guns with which she was also credited in this history were apparently not transferred.

The head of the German Marine-Archiv, to whom this matter has been specifically referred, states that there can be no question whatever of any other guns.

If the "Cap Trafalgar" had been armed with eight 4.1-in. guns, as averred by Captain Lockyer, there would have been no object in transferring to her the "Eber's" 1.4-in. guns, for which there would have been no emplacements.

The 1.4-in. guns had a range of over 5,000 yards, and were presumably the machine guns to which Captain Grant referred in his official report as having been particularly effective.

Yours, etc.,

E. Y. DANIEL,

Lieut.-Colonel, R.M.

Secretary,

Historical Section,

Committee of Imperial Defence.

2, Whitehall Gardens,

17th January, 1928.

### THE TERRITORIAL ARMY.

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—In the November issue of the JOURNAL Colonel Raynsford, in an article on the Territorial Army, exhibits considerable knowledge of our "second line," and many of his suggestions are worth consideration.

I never saw a Territorial Army unit "on parade" before the Great War, but nearly four years spent with different Territorial divisions, not only gives one some experience of their organization, but engenders a keen interest in their welfare. May I, therefore, be allowed to emphasize some of Colonel Raynsford's suggestions.

Firstly, as regards training. You cannot train men in any business without the means, viz.: the instructors, the impedimenta, and the suitable locality. For instance, to train a motor-driver, you require the machine (weapon); fuel (ammunition); and ground space (training area). One reason that the Territorials were not properly trained before mobilization in 1914 was that they had always been deficient of weapons, ammunition and ground. Of course, it had been decided that they would not be required for foreign service, or, if they volunteered, not till some time after the declaration of war. But to-day, since the Territorial Army must be called upon at any outbreak of war, there is all the more justification for, at any rate, some of the proposals put forward by Colonel Raynsford.

Secondly, as regards numbers, I suggest that it is a wise precaution, if you reduce establishments, to increase reserves. After all, it is the man, or men, not machines, that count in war. I am a firm believer in the eventual usefulness of military machines, but it is surely possible that weapons will be invented, and used to defeat them. The reinforcement of an army will require not only machines, but men—a reason for having a good reserve of trained men.

Thirdly, as regards the staff employed with Territorials, I entirely agree that none but the best should be employed. A Territorial staff officer must possess other qualifications besides that of being a married man!

Further, I have never understood the reason for accumulation of funds. The hoarding of money which can, and should, be expended usefully, is a mistake, though it is common with enthusiastic accountants. Again, the association of Regulars with Territorials is most useful, and I have always found great enthusiasm resulting therefrom on both sides. Yet I think it would be sound to equip the

Territorials more fully and not make them dependent on the Regulars, because borrowed equipment may easily lead to doubtful benefits.

Finally, the matter of concentration of battalions and other units is rather difficult. Although in the Northern Command large towns lend themselves to concentration and are good for recruiting, there are some areas, notably the Highlands of Scotland, which are of great extent and thinly populated, but whence excellent material is obtained, that could with difficulty be dealt with in the manner suggested by Colonel Raynsford.

In these days of enforced economy, the Services are singled out relentlessly for reduction of expenditure. It may be that our statesmen do not anticipate war. Some time ago, I asked a responsible person why certain units of the T.A. were immobile; the reply was "they will not be required for six months after a declaration of war." Can one really rely on having such an accommodating adversary? On the other hand, we do remember that we have started our last two wars totally unprepared. Surely, if an army exists at all, it may as well be ready to "take the field" as not?

Yours, etc.,

R. DANNATINE-ALLASON,

Major-General (Retd.)

## GENERAL SERVICE NOTES

### IMPERIAL DEFENCE COLLEGE.

The Second course at the Imperial Defence College commenced in January. The following were appointed as students :—

#### *Navy.*

Captain W. S. Chalmers, D.S.C., R.N.

Captain H. T. England, R.N.

Captain R. H. T. Raikes, D.S.O., R.N.

Captain G. P. Thomson, O.B.E., R.N.

Captain N. A. Wodehouse, R.N.

#### *Army.*

Brevet Colonel E. H. Kelly, D.S.O., M.C., Royal Engineers.

Major H. C. Loyd, D.S.O., M.C., Coldstream Guards.

Brevet Lieut.-Colonel E. F. Norton, D.S.O., M.C., Royal Artillery.

Brevet Lieut.-Colonel J. H. C. Priestman, D.S.O., M.C., The Lincolnshire Regiment.

Brevet Lieut.-Colonel E. K. Squires, D.S.O., M.C., Royal Engineers.

Brevet Lieut.-Colonel M. Kemp-Welch, D.S.O., M.C., Royal Tank Corps.

#### *Air Force.*

Wing Commander J. E. A. Baldwin, D.S.O., O.B.E.

Wing Commander C. C. Miles, M.C.

Squadron Leader L. G. S. Payne, M.C., A.F.C.

Wing Commander A. W. Tedder.

#### *Indian Army.*

Major H. V. Lewis, D.S.O., M.C., I.A.

Major T. J. Ponting, M.C., I.A.

### DOMINION FORCES.

#### *Australia.*

Brevet Colonel J. D. Lavarack, C.M.G., D.S.O., Staff Corps.

Mr. F. G. Shedden, Finance Branch, Dept. of Defence.

#### *Canada.*

Colonel Sutherland Brown, C.M.G., D.S.O., Royal Canadian Regiment.

#### *New Zealand.*

Major W. G. Stevens, New Zealand Staff Corps.

#### *South Africa.*

Lieut.-Colonel J. Mitchell Baker, G.S., Union Defence Force.

#### *Civil Service.*

Mr. T. St. Quinton Hill, O.B.E., Principal, Board of Trade.

Lieut.-Commander H. F. B. Maxse, R.N. (Retd.), Second Secretary,  
Foreign Office.

Mr. H. G. Vincent, Principal, H.M. Treasury.



**STAFF COLLEGE, CAMBERLEY.****R.N. AND R.A.F. APPOINTMENTS.**

Commanders H. T. Baillie Grohman, D.S.O., O.B.E., and C. S. Sandford, O.B.E., Royal Navy, Wing Commander A. T. Harris, O.B.E., A.F.C., and Squadron Leader C. G. Burge, O.B.E., Royal Air Force, were appointed for one year to attend the course at the Staff College, Camberley, which commenced at the end of January.

**REDUCTION OF BRITISH FORCES IN CHINA.**

Conditions in China during the past quarter enabled a considerable reduction to be made in the forces which had been sent to the Far East to protect British lives and interests.

The First Cruiser Squadron, under the command of Rear-Admiral W. H. D. Boyle, C.B., returned to the Mediterranean at the end of December. The 12th Battalion, Royal Marines, returned to its Home Ports, part in October, the remainder in January.

The Garrison at Shanghai has been reduced by the 1st Battalion, Cameronians, which returned home in November and the 13th Brigade Headquarters, 1st Battalion Border Regiment, and 1st Battalion Middlesex Regiment, which returned in December.

The 1st Battalion Northamptonshire Regiment and 56th Field Company, R.E., were moved from Hong Kong to Shanghai during the previous month.

**ADEN.****TRANSFER TO R.A.F. COMMAND.**

The military command of the Aden Defences will be transferred from the Army to the R.A.F. next April, when an Air Force commander will be appointed. At present the only R.A.F. unit at that Station is the No. 8 (Bombing) Squadron, which is part of the Middle East Command, R.A.F.

**FUNCTIONS OF THE ROYAL MARINES.**

In view of the articles on the Royal Marines which have been published in recent issues of the JOURNAL, it is interesting to note that the official functions of the Corps have recently been laid down, as follows:—

"Its function, in war or peace, is to provide detachments which, whilst fully capable of manning their share of the gun armaments of ships, are especially trained as small arm men, in order that a striking force, drawn either from the R.M. Depots or from the Fleet, may be immediately available for use under the Naval C.-in-C. for amphibious operations, such as raids on the enemy coast line and bases, or the seizure and defence of temporary bases for the use of our own Fleet."

**THE ROYAL TOURNAMENT, 1928.**

It is officially announced that the Royal Tournament will be held at Olympia, Kensington, from Thursday, 24th May, to Saturday, 9th June, inclusive.

**M**

## SOVIET UNION.

## COMBINED EXERCISES.

Reports of a combined exercise carried out by the Black Sea Flëet with the Army and aircraft off Odessa last Autumn, indicate that there is still a great shortage of experienced technical ratings afloat. Voroshilof, the Commissar of War, expressed the opinion that a great deal more training is required by the Naval personnel and that, while there is plenty of enthusiasm, particularly of a political nature, there is a lack of coolness and endurance. It is hoped to increase the numbers under training at the schools and to extend the courses.

The exercises included the landing of an expeditionary force under cover of a naval bombardment and protected by aircraft against air attack. The landing was opposed by coastal artillery, submarines, destroyers and aircraft. The naval forces taking part appear to have been limited to two cruisers, five torpedo craft, five submarines and some minesweepers and small auxiliary vessels.

## UNITED STATES.

## VIEWS ON A COLLEGE OF NATIONAL DEFENCE.

The establishment of the British Imperial Defence College has evidently set Service interests in America thinking on similar lines.

Commenting on the proposal, advanced by the *Army and Navy Journal* of Washington in a previous issue, that a College of National Defence be established to train officers and diplomats on international relations and military policy, that publication reports that Rear-Admiral Sumner E. W. Kittelle, U.S.N., Commandant of the 16th Naval District, states :—

"The idea appeals to me as a desirable one and worthy of study, but I think such an institution should be broader in scope than you suggest, and not be confined solely to diplomats and officers of the Services.

"In future wars in which we may become involved, I hope to see every adult and every dollar in the United States and her possessions drafted to serve the cause; therefore, would it not be well also to call into the College Conference some statesmen, financiers, manufacturers, ship-builders, railroad men, men of the merchant marine, engineers of various branches and representatives of labour? Men, women and children in all walks of life, should be taught that they have an individual part in the defence of the country.

"It is necessary not only to co-ordinate the two Services with the diplomatic one, but also to convince all Americans everywhere, of the necessity for complete co-operation and co-ordination when it comes to matters of national defence. Let us not look upon national defence purely from its warlike aspect, but also from the broader view of national policy and its development. The two are inseparable. How would the name "National College" be as a substitute?"

## NAVY NOTES

### GREAT BRITAIN.

#### FLAG LIST.

**THE LATE SIR JOHN M. DE ROBECK.**—Admiral of the Fleet Sir John M. de Robeck, Bt., G.C.B., G.C.M.G., G.C.V.O., died suddenly on 20th January at his London home, aged 65. He will be chiefly remembered as the Vice-Admiral who commanded the Allied naval forces at the Dardanelles in 1915-16. He was Vice-Admiral Commanding the Second Battle Squadron, Grand Fleet, in 1916-19; Commander-in-Chief in the Mediterranean in 1919-22; and Commander-in-Chief, Atlantic Fleet, in 1922-24. The funeral took place at Bembridge, Isle of Wight, on 24th January, with full naval honours. The body was conveyed from Portsmouth to Ryde on board H.M.S. "Caterham."

**NEW ADMIRAL OF THE FLEET.**—In the vacancy caused by the death of Sir John M. de Robeck, Admiral Sir Henry Oliver, K.C.B., K.C.M.G., M.V.O., LL.D., was promoted to be Admiral of the Fleet, to date 21st January. On the same date, Vice-Admiral Sir Richard Webb, K.C.M.G., C.B., President of the Royal Naval College, Greenwich, was promoted to the rank of Admiral; and Rear-Admiral Bertram S. Thesiger, C.B., C.M.G., Commander-in-Chief, East Indies Station, to Vice-Admiral.

**MEDITERRANEAN COMMAND.**—On 23rd December, the Admiralty announced that Vice-Admiral Sir Frederick L. Field, K.C.B., K.C.M.G., was to be Commander-in-Chief of H.M. Ships and Vessels, Mediterranean Station, in succession to Admiral Sir Roger J. B. Keyes, Bt., K.C.B., K.C.V.O., C.M.G., D.S.O., LL.D., D.C.L., to date 1st May, 1928. Vice-Admiral Field will take up his appointment about 8th June, upon which date Admiral Keyes completes three years in command.

**AMERICA AND WEST INDIES STATION.**—On 19th January, the selection was announced of Vice-Admiral Cyril T. M. Fuller, C.B., C.M.G., D.S.O., to be Commander-in-Chief, America and West Indies Station, in succession to Admiral Sir Walter Cowan, Bt., K.C.B., D.S.O., M.V.O., to date 5th June, 1928. Vice-Admiral Fuller's last appointment was in command of the Battle Cruiser Squadron.

**REAR-ADMIRALS' APPOINTMENTS.**—Other changes announced on 23rd December were, Rear-Admiral John M. Casement, to be Rear-Admiral Commanding Third Battle Squadron, Atlantic Fleet, in succession to Rear-Admiral Percival H. Hall-Thompson, C.B., C.M.G., to date 5th May, 1928; and Rear-Admiral Joseph C. W. Henley, C.B., to be Director of Naval Equipment, in succession to Rear-Admiral Henry W. Parker, C.B., C.M.G., to date 17th May, 1928.

**Rear-Admiral H. W. Webley Hope, C.B., C.V.O., D.S.O.,** was, in November, selected to be President of the Ordnance Committee, Royal Arsenal, Woolwich, in succession to Rear-Admiral Henry R. Crooke, C.B., to date 2nd January, 1928.

**RETIREMENTS AND PROMOTIONS.**—The following retirements and promotions on the Flag List occurred during the past quarter:—

Rear-Admiral William D. Paton, C.B., D.S.O., M.V.O., was placed on the retired list, to date 1st January, and in consequence, Captain Berwick Curtis, C.B., C.M.G., D.S.O., was promoted to the rank of Rear-Admiral in H.M. Fleet from the same date. Vice-Admiral Sir Edmund P. F. G. Grant, K.C.V.O., C.B.,

has been placed on the Retired List, to date 14th January. In consequence of the retirement of this officer, Rear-Admiral H. R. Croke, C.B., and Captain F. A. Marten, A.D.C., C.B., C.M.G., C.V.O., have been promoted to Vice-Admiral and Rear-Admiral respectively in H.M. Fleet, from the same date.

Vice-Admiral Croke has been placed on the Retired List, and Rear-Admiral W. W. Fisher, C.B., C.V.O., has been promoted to Vice-Admiral, and Captain G. W. McO. Campbell to be Rear-Admiral in H.M. Fleet, to date 15th January.

Rear-Admiral Marten has been placed on the Retired List, and Captain A. G. Craufurd, A.D.C., is promoted to Rear-Admiral in H.M. Fleet, to date 15th January.

Rear-Admiral Campbell has been placed on the Retired List and Captain the Hon. R. A. R. Plunkett-Erle-Drax, A.D.C., D.S.O., has been promoted to Rear-Admiral in H.M. Fleet, to date 16th January.

Rear-Admiral Craufurd has been placed on the Retired List and Captain M. E. Dunbar-Nasmith, V.C., C.B., A.D.C., is promoted to Rear-Admiral in H.M. Fleet, to date 16th January.

The following promotions on the Retired List have also taken place:—Rear-Admirals J. R. P. Hawksley, C.B., C.V.O., and R. Hyde, C.B., C.B.E., M.V.O., to be Vice-Admirals, to date 14th January; Captain J. F. Warton, C.M.G., C.B.E., to be Rear-Admiral, to date 14th January.

#### PERSONNEL.

**NEW PRIZES.**—Signal officers, past and present, on the active list of the Royal Navy, have subscribed a sum of about £280 with a view to instituting a Prize for officers qualifying as signal specialists. Admiral of the Fleet Sir Henry Jackson, G.C.B., K.C.V.O., F.R.S., D.Sc., LL.D., and Admiral Sir Allan Everett, K.C.M.G., K.C.V.O., C.B., have expressed their willingness for their names to be associated with this award, which will accordingly be known as the "Jackson-Everett Prize." Further details are in A.F.O. 3,027, dated 2nd December, 1927.

**PROMOTION TO BOATSWAIN.**—The Admiralty pointed out in November that there had been a reduction in the number of candidates for Gunner and Gunner (T) as compared with those for Boatswain. As some misapprehension may exist regarding the relative prospects of promotion, it was pointed out that, although the course to qualify for Boatswain is of shorter duration and possibly less exacting, the number of Boatswains and above is smaller. The relatively large number of candidates renders it practically certain that the period on the roster prior to promotion will normally be considerably longer than the corresponding period in the other branches.

**ADVANCED CLASS ENTRIES.**—On 6th January, the Admiralty announced that arrangements had been approved for a limited number of boys to be entered in October each year direct in the Advanced Class for training, the object of this class being to give boys, with a good education before joining, an advanced education, in order to provide well-educated men for Mates and Warrant Officers and for the higher ratings. Candidates will be admitted by competitive examination limited to boys recommended by educational authorities and the superintendents of training ships, and also without competitive examination if they are recommended by such authorities and are in possession of certain school certificates. Details are contained in an official pamphlet, "The Royal Navy as a Career."

#### MATERIAL.

On 20th January, it was officially stated that the Cabinet had completed their review of the new construction programme for the years 1927-29, and had



decided that, in addition to the deletion, already announced, of two of the three cruisers belonging to the present financial year the programme as set forth in the White Paper of 25th July, 1925, shall be further modified by omitting one of the three cruisers intended to be begun in the financial year 1928.

**CRUISER PROGRAMME REDUCED.**—In the House of Commons on 16th November last, Mr. Bridgeman stated that the Government had decided that, in the light of the situation disclosed at the recent Geneva Naval Conference, it is not necessary or desirable to proceed with the laying down of the two ships this year which were to have been built at Portsmouth Dockyard and by contract respectively. The cruiser at Devonport will be of the "B" class, and work in connection with her construction is to begin on 15th March, 1928.

**H.M.S. "RODNEY."**—The new battleship "Rodney" was commissioned by Captain H. K. Kitson on 7th December, for service in the Second Battle Squadron, Atlantic Fleet. She has been manned from Devonport. The date was almost exactly five years from the laying of her first keel-plate.

**THE "KENT" CLASS.**—The first of the new 10,000-ton cruisers of the "Kent" class to go into full commission was the "Cumberland," Captain A. L. Snagge, which was joined by a full Chatham crew at that port on 15th December, for service in the Fifth Cruiser Squadron, China Station. She left for the Far East on 26th January. Of the other cruisers in the programme, the date for the completion of the "Berwick," Captain R. S. Wykes-Sneyd, D.S.O., to full crew, 1st November, was postponed; and on 6th December, the "Cornwall" Captain the Hon W. S. Leveson-Gower, D.S.O., was commissioned with a two-fifths complement. These two vessels are also to join the Fifth Cruiser Squadron, China Station. The "Suffolk," Captain N. O'Neill, remained in commission for trials at Portsmouth.

**H.M.S. "KENT,"** due for completion in May, 1928, will relieve the "Hawkins" as flagship in China.

**H.M.S. "DORSETSHIRE."**—The Admiralty have decided that the cruiser "Dorsetshire," of the 1926-27 Navy Estimates, is to be fitted as a squadron flagship. The vessel was laid down at Portsmouth on 21st September, in succession to the "London," launched a week earlier, and she should come into service in the autumn of 1930.

**NEW MINESWEEPERS.**—The two minesweepers of the 1927-28 Estimates, contracts for which were placed in September with Messrs. Hawthorn Leslie & Co., as announced in the last issue of the JOURNAL, are to be named the "Bridgewater" and the "Sandwich." These names date from 1655 and 1679 respectively, and while the former is connected with frigate actions, the latter was borne by ships of the line.

**MEDITERRANEAN FLAGSHIP.**—At 8 a.m. on 1st December, the flag of the Commander-in-Chief, Mediterranean, was transferred from H.M.S. "Warspite" to H.M.S. "Queen Elizabeth," on the return of the latter to serve after reconstruction. The Flag of the Vice-Admiral Commanding First Battle Squadron, was at the same time transferred from the "Barham" to the "Warspite."

**CHANGES IN FLAGSHIPS.**—The flag of the Commander-in-Chief, America and West Indies Station, was transferred from the "Cairo," in which it had been flying temporarily, to the "Despatch," at Bermuda, on 31st December. The flag of the Vice-Admiral Commanding Reserve Fleet was transferred from the "Dartmouth" to the "Constance" on 1st January, at Portsmouth.

**WARSHIPS FOR DISPOSAL.**—Orders were issued in November for the submarine depot-ship "Maidstone," built in 1912, and employed at Harwich during the war, to be prepared for sale at Devonport Dockyard. The "Lucia" recently replaced her as depot ship of the Second Submarine Flotilla. The ex-battleship "Colossus," after use as an accommodation ship to the "Impregnable" at Plymouth was paid off on 3rd January, into dockyard control, to be prepared for sale. The river gunboat "Glowworm," late Senior Officer's ship in the Danube Flotilla, was placed on the disposal list in December, and ordered to be prepared for sale at Malta.

#### EXERCISES AND CRUISES.

**ATLANTIC SPRING CRUISE.**—The Atlantic Fleet left Portland on 10th January, under the command of Vice-Admiral Sir Hubert Brand, in the "Nelson," for its spring cruise, which is to last until 2nd or 3rd April. The programme is similar to those of past years since the Armistice, and includes visits to ports and anchorages on the Spanish coast. The Second Cruiser Squadron visited Lisbon between 19th-24th January.

**MEDITERRANEAN JANUARY CRUISE.**—The Mediterranean Fleet ships left Malta on 16th and 17th January, for exercises and independent visits in the Aegean. The "Queen Elizabeth" and "Warspite" went to Port Said; the "Royal Oak" and "Valiant" to Dragomesti Bay; the First Cruiser Squadron to Suda Bay; the Third Cruiser Squadron to Volo and neighbouring anchorages; and the destroyers and submarines to Corfu and Drepano. This cruise was due to end on 2nd February.

**COMBINED EXERCISES.**—Combined exercises, which will take place between the Atlantic and Mediterranean Fleets from 15th to 24th March, are interesting as being the last at which Admiral Sir Roger Keyes will be in command before relinquishing his post as Commander-in-Chief, Mediterranean, and the first at which Vice-Admiral Sir Hubert Brand has commanded the Atlantic Fleet. A report that seaplanes would be used from "M" Class submarines in these exercises has been denied; the two submarines of this type do not, in fact, belong to either Fleet.

**TROPICAL CRUISE.**—The battleships "Barham," Captain H. S. Monroe, D.S.O., and "Ramillies," Captain G. R. B. Blount, D.S.O., left Malta on 8th December for a special cruise in the Atlantic off the West Coast of Africa. They were at Sierra Leone for Christmas, and also called at Sekondi, Accra, and Lagos. Returning to Gibraltar on 1st February, the Captains exchanged commands, so that Captain Blount might bring home the "Barham" for refit at Portsmouth, during which she is to reduce to two-fifths complement.

**OTHER FOREIGN STATIONS.**—A normal amount of cruising has been done by vessels on other stations, but mention may be made in particular of a voyage up the Amazon made during December and January by the sloop "Wistaria," Commander F. Q. Champness. This was the first time for many years that a British man-of-war had cruised up this great river. In 1908, the light cruiser "Pelorus," Captain A. W. Craig, went up as far as Iquitos, in Peru, visiting places at which a British warship had never before been seen.

#### GENERAL EVENTS.

**H.M.S. "VICTORY."**—The Plate facing p. 93 of this JOURNAL shows the "Victory" in her final resting place in Portsmouth Dockyard, where her restoration to the appearance she wore at Trafalgar is well advanced.

In place of the jury rig which has done duty for many years, she is being equipped with masts and spars of the original dimensions. The photograph shows the new lower masts in place.

**NATIONAL NAVAL AND NAUTICAL MUSEUM.**—On 22nd November, the Admiralty announced that the project for a National Naval and Nautical Museum, to be established in the Queen's House at the Royal Hospital, Greenwich, had rendered necessary the appointment of a body of Trustees, to take charge of the interests and property of the Museum. The following were appointed: Lord Stanhope, D.S.O., M.C., Civil Lord of the Admiralty; Admiral Sir George P. W. Hope, K.C.B., K.C.M.G., Chairman of the Society for Nautical Research; Sir Lionel Earle, K.C.B., K.C.V.O., C.M.G., Secretary to the Office of Works; Mr. R. C. Anderson, F.S.A., Member of the Council of the Society for Nautical Research; and Professor Geoffrey Callender, F.S.A., of the Royal Naval College, Greenwich. On 7th January, 1928, it was announced that Mr. W. G. Perrin, O.B.E., Admiralty Librarian, had been appointed Honorary Secretary to the National Naval and Nautical Museum.

#### FLEET AIR ARM.

**NEW AIRCRAFT CARRIER.**—The aircraft carrier "Courageous" was ordered to commission on 14th February, for trials. She has been converted at Devonport Dockyard, at a cost of £2,025,800 and will join the Mediterranean Fleet.

**AIRCRAFT IN SUBMARINES.**—The *London Gazette*, on 30th December, contained provision for the payment of an allowance to qualified Fleet Air Arm Pilots and Naval Observer Officers who are appointed to submarines carrying aircraft, such allowance to be administered in the manner laid down for submarine allowance.

**H.M.S. "HERMES."**—Returned to England from China on 31st October, to refit and left for that Station on 21st January.

**H.M.S. "FURIOUS."**—Rejoined the Atlantic Fleet for their cruise in Spanish waters. This ship and H.M.S. "Eagle" will take part in the combined exercises between the Mediterranean and Atlantic Fleets to be held in March.

#### ROYAL MARINES.

**RESERVE OF OFFICERS ABOLISHED.**—By an Order in Council, dated 3rd November, and published in the *London Gazette* on 8th November, the Reserve of Officers, R.M., established in March, 1903, was abolished. All retired officers, R.M., shall be liable to recall for service in time of war or emergency under the general regulations and conditions applicable to retired officers, R.N. An Emergency List is to be established for officers, R.M., who have been or may be allowed to resign their commissions, but who volunteer to serve in time of war or emergency, under the general regulations and conditions applicable to the Emergency List for Officers, R.N., established by Order in Council of 13th May, 1901.

**APPOINTMENTS.**—Major W. A. Jolly, as Barrackmaster, Plymouth Division; Major W. L. Huntingford, as Superintendent, R.N. School of Music; Major P. Owen, as Drafting Officer, Portsmouth Division; Captain V. D. Thomas, as Adjutant, Chatham Division.

**PROMOTIONS.**—Captain F. R. Jones to be Major.

**RETURN FROM CHINA.**—Part of the 12th R.M. Battalion, sent to China in January, 1927, returned to its home ports on 23rd October last. The Battalion was commanded during the first half of the year by Lieut.-Colonel George Carpenter, O.B.E., D.S.C., and after his promotion to Colonel-Second-Commandant by Lieut.-Colonel L. C. Lampen.

Major C. E. S. Wright, O.B.E., R.M., and the remainder of the 12th Battalion, returned to England in January last.

### ROYAL NAVAL RESERVE.

**NEW HONORARY CAPTAIN.**—With effect from 19th October, Viscount Inchcape of Strathnaver, G.C.S.I., G.C.M.G., K.C.I.E., has been appointed an Honorary Captain R.N.R.

Lord Inchcape is Chairman of the P. & O. Company, of the British India Steam Navigation Company, and of other shipping concerns, and his appointment is indicative of the manner in which leading shipowners are identifying themselves with the Royal Naval Reserves.

### ROYAL NAVAL VOLUNTEER RESERVE.

**NEW AIDE-DE-CAMP.**—In the New Year Honours List, it was announced that, in pursuance of His Majesty's pleasure, Captain the Marquess of Dufferin and Ava, P.C., D.S.O., had been appointed a Royal Naval Volunteer Reserve Aide-de-Camp to the King, in succession to Captain Viscount Curzon, C.B.E., V.D., A.D.C., M.P. The Marquess took command of the Ulster Division, R.N.V.R., on its establishment.

**R.N.V.R. REGULATIONS.**—These Regulations have lately been revised and old editions are now obsolete.

Copies of the revised edition are being issued to all concerned from the R.N. Store Depot, Royal Victoria Yard, Deptford, S.E.8.

**SPRING CRUISE.**—Two officers and approximately 270 ratings of the R.N.V.R. embarked in ships of the Atlantic Fleet on or about the 3rd January, 1928, for the spring cruise.

**LONDON DIVISION.**—The Annual Display was held on board H.M.S. "President" on the 17th December, 1927. Admiral of the Fleet Sir Charles Madden presented the prizes.

**EAST SCOTTISH DIVISION.**—A boxing competition was held on the 19th November against H.M.S. "Centaur" and 5th Destroyer Flotilla, resulting in the latter winning easily.

**R.N.V.R. AND THE ARMY.**—A boxing competition was held on board H.M.S. "Unicorn" on the 10th December. R.N.V.R. (Dundee) versus the Black Watch Perth), resulting in a win for the R.N.V.R.

A Naval and Military ball was held in the Royal Pavilion, Brighton on the 9th December, by commanding officers and officers of the Sussex Division, R.N.V.R., 8th Field Brigade, R.A., 57th H.C. Field Battery, R.A. (T.F.), 159th Sussex Heavy Battery R.A. (T.F.), and the 44th H.C. Divisional R.E. (T.F.). It was a brilliant success. The Mayor and Mayoress of Brighton and the Mayor and Mayoress of Hove were in attendance.



## DOMINION NAVIES.

## AUSTRALIA.

**A.D.C. TO THE KING.**—On 14th January, it was announced that Commodore George F. Hyde, C.V.O., C.B.E., had been appointed a Naval Aide-de-Camp to the King, on the promotion to flag rank of Rear-Admiral Berwick Curtis, C.B., C.M.G., D.S.O. Commodore Hyde is the first officer of a Dominion Navy to receive such an appointment.

**NEW CRUISERS.**—The Commonwealth cruisers "Australia" and "Canberra," which are building on the Clyde at the works of Messrs. John Brown & Co., are due for completion at the end of March and the end of July, 1928, respectively. The cruiser "Melbourne" is to return to Portsmouth about 13th April, when she will be scrapped, and her officers and men will transfer to the new vessels.

**NEW SUBMARINES.**—The two submarines, ordered in 1925, for the Royal Australian Navy, have been completed and delivered since the last issue of the JOURNAL went to press. They arrived at Portland on 21st November from Portsmouth, and have been attached temporarily to the Fifth Submarine Flotilla.

## CANADA.

**NEW DESTROYERS.**—The Canadian Government is proposing to build two destroyers in Great Britain to replace the "Patriot" and "Patrician," which were completed in 1916. While the vessels are being built the destroyers "Torbay" and "Toreador," of the Thornycroft "S" type, completed in 1919, will be lent to the Dominion. These vessels are fitting out for Canadian service at Portsmouth.

## FOREIGN NAVIES.

## ARGENTINA.

**SURVEYING SLOOP.**—The two sloops for surveying duties which were launched at the yard of Messrs. Hawthorn Leslie & Co., Hebburn-on-Tyne, and named the "San Juan" and "San Luis," are to be of 790 tons, with a speed of twelve knots. The same firm are building two tugs for the Argentine Government.

## CHILE.

**NEW BRITISH MISSION.**—In succession to the British Naval Mission to Chile, appointed two years ago, a new Mission has been appointed on the expiration of the contract. It will consist of Commander F. H. Pegram, from the Naval Intelligence Division, formerly Superintendent of Anti-Gas Training; Lieutenant-Commander H. N. Lake, D.S.O., D.S.C., a submarine specialist, late in command of "L.22"; Lieutenant-Commander G. C. H. Clayton, a signal specialist and former Flag-Lieutenant to the Commander-in-Chief, East Indies; Lieutenant-Commander H. F. Nalder, a specialist in gunnery, late of the Sixth Flotilla Staff; and Lieutenant-Commander C. J. Carr, a torpedo specialist, from the "Vernon" staff.

**NEW DESTROYER.**—The first of the six destroyers building for Chile at the works of Messrs. Thornycroft, Woolston, was launched on 25th January, and named the "Serrano," after Lieutenant Serrano, who fought in the Chilean frigate "Esmeralda" in her action with the "Huascar" on 21st May, 1879.

## DENMARK.

**SEA TRAINING.**—A visit to London of the "Viking" directed attention to the system of sea training in Denmark, in which country a movement has been on foot since 1924 to reduce the State Navy to a much lower standard of strength. The "Viking" is a four-masted barque, belonging to the United Shipping Company of Copenhagen, and is manned by young seamen who would otherwise find it difficult to fulfil the requirement of the Danish Law as to practical training in sailing ships before entering a navigation school to pass for Mate. Although one of the few remaining sailing ships of Denmark, the "Viking" has modern equipment, and those in her receive theoretical as well as practical instruction.

## FRANCE.

**NEW CHIEF OF STAFF.**—On 10th January, it was announced that Vice-Admiral Violette, late in command of the First Squadron, and a member of the Naval Council, had been appointed Chief of the Naval General Staff, in succession to Vice-Admiral Salaun.

**NEW CRUISERS.** The "Duquesne," the first of the four 10,000-ton cruisers building in France, was ready for sea in November, 1927, and was placed under the command of Captain Bramaud du Boucheron. The second, the "Tourville," began her trials on 13th January, when she reached a speed of thirty-four knots.

**DISAFFECTION AT TOULON.**—Disturbances took place on 1st October, on board the cruiser "Ernest Renan," in reserve at Toulon, and in the naval prison there, both being the outcome of Communist anti-militarist propaganda. Nearly the whole of the reserve crew of the cruiser protested against their food at the mid-day meal, although upon investigation the complaints were found to be groundless. At the Prison, the outbreak began in the section containing seamen sentenced for offences under the ordinary criminal code, such as theft and assault. Speaking in the Chamber on 18th November, M. Leygues, Minister of Marine, attributed the mutiny in the cruiser to the unceasing propaganda from outside, and while contradicting the statement that the revolt was due to the poor quality of the food, said that the maintenance of the highest possible standard of comfort for the men was the best counter-propaganda to the Communists. The Government on 23rd November, obtained a vote of confidence of 371 votes to 150 in opposing a motion that a Parliamentary Commission of Inquiry should proceed to Toulon. On this occasion, M. Leygues said that the whole object of the Communists in demanding an inquiry was to promote the disorganization of the Navy, and if Parliament held that the Navy was an essential factor in France's security they would reject the proposal.

**ROCHEFORT ARSENAL CLOSED.**—The French Ministry of Marine announced on 9th November, that the liquidation of the arsenal at Rochefort, which was ordered in September, 1926, had been accomplished. The work has been transferred to a private industrial company, which has agreed to keep on as many of the old workmen as possible.

## GERMANY.

**NEW DESTROYERS.**—The destroyers "Iltis" (W.109) and "Wolf" (W.110), were launched at Wilhelmshaven on 12th October, 1927. These make a total of eight destroyers of the German replacement programme in the water. The programme was begun in 1925, and the first vessel, the "Möwe," was completed

in 1926. The vessels are of about 785 tons displacement, 23,000 horse-power, 32 knots speed, and are armed with three 4.1-in. guns and four torpedo tubes. Unlike pre-war destroyers, which were numbered, they bear names, the designations chosen being those of light cruisers or of commerce raiders in the late war.

**CRUISE OF THE "BERLIN."**—Shortly before leaving Germany for a cruise round the world, the cruiser "Berlin" was visited by Grand Admiral (retired) Prince Henry of Prussia, who lunched on board, and according to some reports, had the ship's company mustered and made a speech to them. In response to Republican criticism, the Minister of Defence, Herr Gessler, recalled Captain Kolbe, in command of the "Berlin," overland from Cadiz, to report personally. On 20th December, it was announced that inquiry had shown Captain Kolbe's conduct to have been quite correct, and he left the same night for Genoa to resume command. The ship "Berlin" was scheduled to touch at the following British ports: Aden, January 15th to 18th; Trincomalee, February 7th to 12th; Rangoon, February 17th to 23rd.

#### GREECE.

**QUESTION OF THE "SALAMIS."**—At the concluding session of the Council of the League of Nations on 11th December, the question of the cruiser "Salamis" was referred to the Hague Court. It will be recalled that this vessel was ordered in 1912 at the Vulkan shipyard at Stettin, and was not completed when war broke out. After the war, the Greek Government declined to take delivery, and the matter was referred to a neutral arbitrator, the Dutch Admiral Sourie, who decided that Greece was bound by the contract signed in 1912. The sum involved is about £1,000,000, of which half has already been paid, but the Greeks prefer to abandon the ship and sacrifice this amount rather than pay the balance, more especially as they would have to accept an obsolete vessel which they might not be able to maintain or man.

#### ITALY.

**NEW CHIEF OF STAFF.**—The resignation was announced in November of Admiral Baron Alfredo Acton, as Chief of the Naval General Staff, and of Admiral Cantu as Deputy Chief of the Staff. The Government appointed as their successors Admiral Burzagli and Admiral Bernotti.

#### JAPAN.

**CRUISER CONSTRUCTION.**—It was announced in November that the Japanese Cabinet had approved the Naval Budget, which provides for laying down two 10,000-ton cruisers in 1928. This makes a total of eight ships of this class, of which two are already afloat, the "Nachi" and "Myoko," and four are building. Although in the official Return of Fleets, corrected to 1st February, 1927, the armament of the "Nachi" type was given as eight 8-in., the new text-books, "Brassey" and "Jane," published since the last issue of the JOURNAL appeared, show these vessels to have ten 8-in. guns.

**AUTUMN MANŒUVRES.**—The triennial grand manœuvres held in October, 1927, were utilised to make a test of air reconnaissance on a large scale. The following information was transmitted by the correspondent of *The Times* at Tokio:—

About 170 vessels took part. They were divided into a Red Fleet (defending) and a Blue Fleet (attacking from the direction of Formosa). The first stage consisted of local exercises, in which aerial attack and defence (especially in regard

to the darkening of towns) were practised. The Emperor joined the Fleet for the second period. The new aircraft carrier "Akagi" was attached to the defenders, and the attackers had the "Notori." The Red Fleet concentrated in Ariake Bay on 19th October, and the Blue Fleet left Tokuyama on 20th October, to reappear as an enemy fleet from the Pacific. According to the Press, preparations had been made for smoke screens in Tokio Bay, and elaborate town-darkening schemes with volunteer assistance. These arrangements were not tested, as the battle fleets met on 24th October, 200 miles South-West of Kii, and the manœuvres were thereupon stopped, the object having been attained.

The weather, which was so rough as to delay Pacific liners for twenty-four hours, interfered with the operations, and probably conduced to the early termination. One seaman was killed in the heavy seas, and one aeroplane lost.

### NETHERLANDS.

**NEW DESTROYERS.**—Six destroyers are building, and two more are projected, for the Royal Netherlands Navy. They have been designed by Messrs. Yarrow and Co., and are being constructed at Rotterdam and Flushing, under the supervision of this firm. The first of the vessels, the "Evertsen," ran her official full speed trial on 3rd December, 1927, when the contract speed of 34 knots was exceeded, with a full load.

**NEW SUBMARINE.**—An order for a new submarine, "O.12," has been given to the de Schelde yard, Flushing, which has built several earlier boats. The new vessel will be of 568 tons on the surface, and have a speed of 15 knots, with 8 knots submerged.

### SOVIET UNION.

(See GENERAL SERVICE NOTES).

### SPAIN.

**REORGANIZATION OF THE NAVY.**—The King has signed an important Decree reorganising the Navy.

A "General Directorate of Operations," with naval staff officers under a Vice-Admiral is substituted for the Naval Staff.

The sea-going Fleet (Instructional Squadron) is placed under the chief command of a Vice-Admiral. It will consist of:—

**Battleships.**—"Jaime I"; "Alfonso XIII."

**Cruisers.**—"Principe Alfonso"; "Almirante Cerrera"—when ready.

**Light Cruiser Squadron** (under a Rear-Admiral).—"Victoria Eugenia"

"Blas de Legó"; "Mendez Nunez."

**Destroyer Flotilla** (under a Captain).—"Alsedo"; "Velasco"; "Lazaga"; and the "Sanchez Barcaistegui" class as they enter the service.

These units will join up for three months of the year to carry out manœuvres, during which time they will be added to by a flotilla of submarines and the aircraft-carrier "Dedalo." During the rest of the year they will be at their naval bases carrying out instructional work.

### UNITED STATES.

(See "INTERNATIONAL SITUATION.")



## ARMY NOTES

### HOME.

#### REGULAR FORCES.

**APPOINTMENTS AND PROMOTIONS.**—The principal changes that have occurred during the past quarter are the following :—

A.D.C. to the King : Colonel C. Kirkpatrick, C.B., C.B.E., Indian Army, in succession to Colonel J. Whitehead, C.M.G., D.S.O., Indian Army, retired ; Colonel (temporary Colonel on the Staff) J. E. S. Brind, C.B., C.M.G., D.S.O., in succession to Colonel S. W. H. Rawlins, C.B., C.M.G., D.S.O., deceased.

Hon. Surgeons to the King : Colonel T. Kay, D.S.O., T.D., M.B., Assistant Director of Medical Services, 52nd (Lowland) Division, Territorial Army, vice Colonel F. H. Westmacott, C.B.E., T.D., F.R.C.S., retired ; Colonel R. E. Bickerton, D.S.O., T.D., M.B., Assistant Director of Medical Services, 56th (1st London) Division, Territorial Army, vice Colonel A. D. Sharp, C.B., C.M.G., T.D., retired.

H.M. the King has been pleased to approve of the appointment of Lieutenant-General Sir Archibald A. Montgomery-Massingberd, K.C.B., K.C.M.G., and Sir George F. MacMunn, K.C.B., K.C.S.I., D.S.O., as Colonels-Commandant, Royal Artillery ; of Major-General E. S. Girdwood, C.B., C.M.G., as Colonel of The Cameronians (Scottish Rifles), in succession to Major-General Sir Philip R. Robertson, K.C.B., C.M.G. ; also of Major-General Sir Maurice P. C. Holt, K.C.B., K.C.M.G., D.S.O., and Major-General Sir Samuel G. Guise-Moores, K.C.B., C.M.G., late R.A.M.C., as Colonels-Commandant, Royal Army Medical Corps, vice Major-General Sir William G. Macpherson, K.C.M.G., C.B., LL.D., M.B., deceased, and Lieutenant-General Sir Arthur T. Sloggett, K.C.B., K.C.M.G., K.C.V.O., F.R.C.S., late R.A.M.C.

The following appointments have been announced :—

Lieutenant-General Sir A. A. Montgomery-Massingberd, K.C.B., K.C.M.G., to be General Officer Commanding-in-Chief, Southern Command, in succession to General Sir A. J. Godley, K.C.B., K.C.M.G., A.D.C. (17th June, 1928).

Lieutenant-General Sir W. C. G. Heneker, K.C.B., K.C.M.G., D.S.O., has been appointed General Officer Commanding-in-Chief, Southern Command, India, in succession to Lieutenant-General Sir H. B. Walker, K.C.B., K.C.M.G., D.S.O. (1st March, 1928).

It is announced that Major-General Sir John Duncan, K.C.B., C.M.G., C.V.O., D.S.O., has been appointed General Officer Commanding, 1st Division, in succession to Lieutenant-General Sir C. F. Romer, K.B.E., C.B., C.M.G., promoted ; and that Major-General A. E. Wardrop, C.B., C.M.G., will succeed Major-General Duncan as General Officer Commanding, North China Command.

Major-General G. S. Clive, C.B., C.M.G., D.S.O., has been appointed Director of Personal Services at the War Office, in succession to Major-General G. J. Farmar, C.B., C.M.G., and will take up his duties on 19th May, 1928.

Major-General G. J. Farmar, C.B., C.M.G., has been appointed Lieutenant-Governor and Secretary of the Royal Hospital, Chelsea, in succession to Major-General H. C. Sutton, C.B., C.M.G., as from 19th May, 1928.

Major-General E. T. Humphreys, C.B., C.M.G., D.S.O., has succeeded Major-General C. A. C. Godwin, C.B., C.M.G., D.S.O., as Commandant of the Staff College, Quetta.

Ordnance Officer, 1st Class, and Colonel C. D. R. Watts, C.B., C.M.G., to be promoted Major-General and Director of Ordnance Services at the War Office, in succession to Major-General R. K. Scott, C.B., C.M.G., D.S.O. (1st January, 1928).

The Rev. A. C. E. Jarvis, C.M.G., M.C., D.D., to be Chaplain of the Tower of London, and to undertake the duties of the appointment in addition to his duties as Chaplain-General to the Forces. This appointment was held from 1887 to 1902 by the then Chaplain-General; from 1902 to 1911 by a re-employed officer of the Army Chaplain's Department. Since 1911 it has been in abeyance, the duties attaching to the office having been performed by a serving officer of the Army Chaplains' Department.

ARMY RESERVE.—NO TRAINING NEXT YEAR.—There will be no training during 1928 for Sections "B" and "D" of the Army Reserve.

THE ABOLITION OF THE LANCE.—It has been decided to abolish the lance as a weapon of war. Henceforth it will not be carried on field training, but will be retained by Lancer regiments for ceremonial purposes only. Training in the handling and use of this weapon, other than for ceremonial purposes, will be discontinued forthwith.

SOLDIERS IN PLAIN CLOTHES.—In view of the continued improvement in the conduct of soldiers, the Army Council has decided to extend the privilege of wearing plain clothes when off-duty to non-commissioned officers below the rank of sergeant and to men of good character when on furlough or pass, and also when "walking out" at their station. The privilege is to be granted at the discretion of commanding officers.

THE DUKE OF WELLINGTON'S REGIMENT: REGIMENTAL BADGE.—The King has approved of a new design of the Regimental Badge of the Duke of Wellington's Regiment (West Riding), viz.: "An Elephant, with howdah and mahout, circumscribed 'Hindoostan,' ensigned with the Imperial Crown."

ARMY TRADE APPRENTICESHIPS FOR BOYS.—The results of the recent competitive examination of boys for enlistment into the Army as apprentice tradesmen show that of 417 competitors 172 were successful. These boys (with the exception of three who competed for vacancies as masons in the Royal Engineers) will go to the Boys' Technical School, Chepstow, for a three-years' course of training in one or other of some ten trades, comprising those of armourer, artificer, carpenter, electrician and instrument maker. During training they will not only be fed, clothed and housed free of cost to their parents or guardians but will be paid 7/- a week, rising to 8/2, according to progress.

Of the remaining candidates, there were 29 on the General List, and six who competed specially for vacancies as masons in the R.E., who qualified but for whom there are no vacancies. The next examination will be held on 6th March, 1928. At this and subsequent examinations an Intelligence Test will be substituted for the General Knowledge paper; but the papers on Arithmetic and English will remain.

SOLDIER SETTLERS IN CANADA.—A special agricultural course of training of four months' duration has begun at the Army Vocational Training Centre, Chisledon Camp, Swindon, for soldiers desiring to settle in Canada after their discharge from the Army. Special arrangements have been made with the Canadian authorities,

under which they will undertake to place approximately 300 Chisleton-trained men in suitable agricultural employment in the middle of 1928, and to guarantee them after-care for five years. Soldiers thus accepted for settlement will be given reasonable latitude for selecting the part of Canada (with the exception of British Columbia) in which they desire to settle.

**PAY AND OUTFIT GRANT OF RETIRED OFFICERS.**—Army Orders for November include a Royal Warrant containing provisions for the outfit grants of retired officers called up on mobilization.

**SUPPLEMENTARY RESERVE: TRAINING CONCESSIONS TO OFFICERS.**—In order to suit the varied circumstances of officers of the Supplementary Reserve in civil life, the period of preliminary training has been shortened and the regulations for annual training made more elastic in the case of officers commissioned in Category "B" on or after 1st January, 1928. Under the new regulations the periods of preliminary training will be as follows:—

- (1) In the Cavalry and Royal Tank Corps, two months for officers holding Certificate "B", Officers Training Corps; three months for those holding Certificate "A", Officers Training Corps; and four months for those who do not hold either of these Certificates.
- (2) In the Foot Guards and Infantry, one month for those holding Certificate "B"; two months for those holding Certificate "A"; and three months for those who do not hold either Certificate.

The preliminary training may be carried out in one continuous period or spread over a maximum period of four years, provided, in the latter case, not less than one month's training is carried out in any one year and that the training is carried out in the first and following years consecutively. Further, to suit candidates for commissions who foresee that they may not be able to carry out the three weeks' annual training laid down for certain arms, this annual training may be reduced to one week in each year or two weeks in alternate years, provided that the periods of preliminary training specified are extended by three months in each case.

### TERRITORIAL ARMY.

**SUMMER CAMP ATTENDANCE.**—Official returns regarding the annual training of the Territorial Army show that all units attended the Summer Camps and that the total attendance was 86.6 per cent. of the strength of the Army.

In the Competition for the best attendance for fifteen days, the 6th Battalion, Durham Light Infantry, with a total of 18 officers and 625 other ranks, making a percentage of attendance to establishment of 98.01, was awarded the *Daily Telegraph* Challenge Cup. The runners-up were the Tynemouth Heavy Brigade, R.A., with a total attendance of 277 and a percentage of 97.8 to establishment. The units next in order were the following:—

	Total.	Percentage of Etabl.
61st (N. Midland) Field Brigade, R.A.	420	95.4
82nd (Welsh) Field Brigade, R.A.	415	94.3
8th Bn. Durham Light Infantry	619	94.3
Notts. Yeomanry (Sherwood Foresters)	279	93.9
77th (Highland) Field Brigade, R.A.	411	93.4
7th Bn. Durham Light Infantry	601	91.6
4th Bn. Royal Welch Fusiliers	598	91.1
Hallamshire Bn. York. & Lancs. Regt.	598	91.1

**OUTFIT GRANTS.**—Army Orders for October include an Order affecting the Outfit Grant of Territorial Officers.

**CHANGE OF DESIGNATION.**—The 23rd London Regiment, Territorial Army, will in future be designated as 23rd London Regiment (The East Surrey Regiment), Territorial Army.

### DOMINION FORCES.

**REGIMENTAL ALLIANCES.**—The King has approved of the following Regimental Alliances :—

*Non-Permanent Active Militia of Canada.*—The York Rangers to The Green Howards (Alexandra, Princess of Wales' Own Yorkshire Regiment) ; The Toronto Regiment to The King's Regiment (Liverpool).

*Australian Military Forces.*—The 7th Light Horse Regiment to The Queen's Bays (2nd Dragoon Guards) ; 44th Battalion to The Essex Regiment ; 14th Battalion to The West Yorkshire Regiment (The Prince of Wales' Own).

### NOTICE.

The Editor has received the following letter :—

SIR,—The draft T.S. chapters of the narrative of the battles of Festubert, Aubers Ridge and Loos, and of the fighting in June-August, 1915, are now ready. I shall be glad to send them for remarks to any officer who has not already seen them and in a position to throw light on the actions of his command in the period.

Your obedient Servant,

T. E. EDMONDS,

Brigadier-General.

*Director, Historical Section, Military Branch.*

### FOREIGN

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#### FRANCE.

**PROPOSED RE-INTRODUCTION OF PRE-WAR UNIFORMS TO STIMULATE RECRUITING.**—The military authorities are considering the re-introduction of the pre-war parade uniform. Authority has already been given for officers of Spahis, Chasseurs d'Afrique and Zouaves to wear the old uniform ; all non-commissioned officers and regular soldiers of these regiments are also to be issued with the old uniform, as far as existing stocks allow, for use on leave or when walking out. The proposal is of interest, in view of the difficulty of obtaining the extra regular personnel required under the re-organization proposals.

**COMMUNIST ACTIVITY IN THE FRENCH ARMY.**—Heavy sentences have been recently inflicted for anti-militarist propaganda. Amongst others, M. Duclos, Deputy for the Seine Department and Manager of *La Caserne*, was sentenced to thirty years' imprisonment and a fine of 18,000 francs for publishing articles inciting soldiers to mutiny. M. Marty, another Deputy, was sentenced to ten years' imprisonment and a fine of 6,000 francs. Four other journalists were sentenced to three years' imprisonment and fines of 2,000 francs. M. Bellenger and M. Michelet, the latter of *l'Aube Sociale*, received similar sentences in default.



An action was brought against the Limoges Communist paper *Le Travailleur du Centre*, charging it with publishing defamatory articles against the garrison.

Early in October, the French Police seized 43,000 copies of *Le Conscrit*, which had been made up into packets for issue to men of the annual class, due to join the colours this autumn. The manager of the paper has been arrested and charged with inciting to disobedience.

**MILITARY TRAINING (GAMES).**—Last August, a War Ministry decree forbade serving soldiers to take part in games and athletics organized by civilian associations.

A new circular has now been issued, taking the first step in making games a part of the regular training of the French soldier. Especial emphasis is laid on football and cross-country running, owing to their value for military training. Three military championships are to be created in France; for Association football, Rugby football, and cross-country running. Every regiment or other self-contained unit will take part in these sports and the formation of teams will be compulsory. The army corps will be the unit of competition. Eliminating matches will be held. Championship matches will also be held between the army corps teams. Finally, the winners of the army championships may meet those of the civilian championships.

Since the recent visit of a party of Saint-Cyr cadets to Sandhurst, the officers of Saint-Cyr have been ordered for the first time to take part in games with the cadets.

**ILLITERACY IN THE FRENCH ARMY.**—In a report on the Budget of the Ministry of War, stress is laid on the considerable increase of illiteracy amongst French recruits since the war there is an increase in one region from 3.5 per cent. in 1912, to 11 per cent. in 1927. The question is serious, as, with the short period of service, the whole of the soldier's time must be devoted to military training.

#### MOROCCO.

**FRENCH ZONE.**—The situation remains generally quiet. The two parties of French settlers captured by bandits in the Middle Atlas, have been released after payment by the French authorities of the huge ransom of 7,000,000 francs in silver.

There was some fear that this payment by the French might lead to a serious loss of prestige. Actually the French appear to be profiting by the incident. Negotiations for the ransom brought the French for the first time into direct touch with certain tribes (the Ait Shokman) of the Middle Atlas, who had hitherto always refused to deal with the French. All sections of this group of tribes took part in the negotiations, in order to ensure having a share of the booty. The French are thus at liberty to deal with the group as a whole. They are also playing on the tribesmen's superstitious nature and have proclaimed the ransom money as "accursed," the tribesmen being solemnly warned that they would pay dearly for the money, and would have no peace until it was refunded.

The French have now doubled their posts on the boundary of the Ait Shokman country, and intend to blockade the district until the tribes submit. The tribes of the High and Middle Atlas are dependent on the fertile plain for corn and other necessities, and their only outlet for supplies has now been cut off. Aeroplanes have flown over tribal territory threatening military action.

**SPANISH ZONE.**—The situation remains quiet. Every endeavour is being made to complete the main arterial roads before the bad weather sets in.

A Royal decree of 31st October, places the civil administration of Ceuta and Melilla directly under the High Commissioner, instead of being controlled by military

governors. This is of interest as foreshadowing the gradual substitution of civil for military control in the Zone.

His Majesty's Ambassador at Madrid recently visited the Spanish Zone, and was much impressed with the type of Spanish officer employed in Morocco. He considers the Spaniards are proceeding on sound lines in their relations with the Moors, whose religious susceptibilities and customs are being scrupulously respected. No Christian troops are quartered in Sheshewan, which is a holy city to the Moham-medans, and no Christian is allowed to set foot in the town after 6 p.m.

#### PERSIA.

**PERSIA-SOVIET AGREEMENT.**—As a result of protracted negotiations between the Persian and Russian Governments, a Neutrality Pact and a Trade Agreement, on much the same lines as those already concluded between Russia and Turkey, were signed on 1st October and ratified on 21st October.

Concurrently with the above, agreements were signed under which the Caspian Sea fisheries controversy was settled by the establishment of a joint Russo-Persian company to work the fisheries; the Port of Pahlevi was returned to Persia, and "most favoured nation" treatment was mutually accorded in customs and tariff questions.

#### SOVIET RUSSIA.

**DEMONSTRATION OF THE PREPAREDNESS FOR DEFENCE.**—During the International Youths' Day, Leningrad was marked by a magnificent demonstration organized by the workmen under control of the Komsomoltsi organization. Processions commenced punctually at noon, and the march past of the young men continued until 3 o'clock. The first procession consisted of young men from the Putilov factory, and had at their head a detachment of infantry, which called forth enthusiastic applause. Not only did the huge factories, which have thousands of Komsomoltsi cells create infantry, medical and chemical and other groups and detachments, but also the smaller works and factories, tram parks, telephone stations and others, demonstrated their preparedness for defence.

Works after works, over a period of three hours, displayed disciplined ranks of pioneer detachments of Komsomoltsi columns, chemical, medical and infantry groups and detachments. Some works, such as the "Proletariat" and others, have whole companies of infantry. In each area were noticeable strong detachments of young cyclists—the future scouts. There was special attention (which called forth a long and loud ovation), for the detachment of young Chinamen, who are preparing for a war against their own and international bourgeoisie.—*Krasnaya Zvezda*, No. 202, of 6th September, 1927.

**"TRIAL MOBILIZATION"; TEST OF WAR PREPAREDNESS.**—Recently in some areas of the S.S.S.R. trial mobilizations have been carried out for those subject to military law. The fundamental problem of the test was a periodical, organized, confirmation of the preparedness of war of the Soviet Republic. The work, which aims at training the population of the masses of the country in strengthening the defence of the S.S.S.R. like all other responsible work has to be tested. Test mobilization is of special importance at the present moment when the international situation is highly critical, when the Imperialistic powers are feverishly preparing for war and finally when the question of a preparedness for defence of the frontiers of the Soviet State has become the most important question of the day. Therefore

the carrying out of the trial mobilization and its results is the best indication of the will of the masses of the workmen and peasants.

A trial mobilization includes the calling up of those liable to military service, also the organization of horses, carts, transportation etc. At the end of the mobilization those who are liable to military service disperse to their homes. The area and time to be called up is decided by the Soviet of Work and Defence. Horses, carts, and harness are returned to their owners with a payment for use of horse and cart as laid down on a definite military price—2 roubles for twenty-four hours is paid for the use of a horse; for the use of harness and cart only, 1 rouble for twenty-four hours.

In a trial mobilization the responsibility problem rests on agricultural organization and co-operative societies. The subsidy of industrial and trade workers during mobilization period is demanded from these bodies. The liaison with the military authorities, of the Supply and Co-operative Societies, and of all trading and Soviet institutions, and also organization in their work together guarantee a successful carrying out of trial mobilization.—*Krasnaya Zvezda*, No. 202, of 6th September, 1927.

**SHORT HISTORY OF THE OSOVIAKHIM.**—The Osoviakhim is a powerful public organization of the masses, created by the Soviet with a view to co-operation with the State in the organization of aero-chemical defence of the country. There is no corner in the Soviet Union where the organization of the Osoviakhim does not exist. The furthest areas of the republic are in the grip of a network of cells of the public society of the Osoviakhim.

In 1923, the O.D.V.F. (The Society of Friends of the Air Fleet) was created. In 1924, the Dobrokhim (The Society of Friends of Chemical Industry) was established. A year after these societies were changed to the "Sojus Aviakhim S.S.S.R." (The Society for assisting Aviation and Chemistry). In 1922, the V.N.O. (Military Scientific Society) was changed into the O.S.O. (Society for Co-operation in Defence). In January, 1927, a union took place between the "Society for assisting Aviation and Chemistry" and the "Society for Co-operation in Defence" and was then re-named Osoviakhim (The Society for the Organization of Aero-Chemical Defence of the S.S.S.R.) known officially as "Sojus Osoviakhim S.S.S.R."

The Osoviakhim is a voluntary organization of the wide masses of the people. In January, 1925, the Society O.D.V.F. consisted of 1,898,630 members. On the 1st October, 1925, this figure rose to 2,569,265. During the period 1st October, 1925-26, the Society changed from collective membership to the principle of individual voluntary membership, and carried out a registration of its members on the basis of their willingness to remain in the Society and work for its cause. The result of this campaign was that a part of the collective membership left the Society, and on the 1st October, 1926, the Society numbered only 1,986,324, but on the other hand improved the quality of its members. During the last year, October, 1926-27, as a result of the fusion between the Aviakhim and O.S.O., and the campaign of the "Week of Defence," the membership of the Society rose (1st April, 1927) according to unofficial figures to 2,516,340. The growth of the membership is still in course of progress.

At the present moment the Osoviakhim possesses:—33 aero-chemical museums; 33 clubs; 6,995 corners; 1,178 aero-chemical groups; 1,942 libraries; 1,283 groups of flying recreation (models, plans, etc.); 202 chemical laboratories; 27 permanent exhibitions; 3,063 groups of military education; 4,207 groups of

infantry; 617 groups of medical; 836 groups of rifle ranges. In 1926 there was added an economic section with 7466 groups for the furtherance of mineral research.

Rifle ranges and many other units and detachments which for the most part were created during the "Week of Defence," can without doubt be classed as a practical result of the summer campaign.

This year in Moscow, the Osoviakhim S.S.S.R. opened a central air museum under the name of "Tovarich M.V. Frunze."

There has been carried out and continues a colossal work in the militarization of the population, the development of the activities of the Society, military propaganda and aviation and chemical knowledge. If to this is added the editorial work of the Society during the last four and half years, that is the tens of millions of books, pamphlets, circulars, etc., edited and circulated throughout the country, the agitation cars in these years covered thousands of points and carried out numerous agitation campaigns. This gives a clear picture of the gigantic work of the Society in the furtherance of agitation and propaganda.

The campaign of 1923, the first period of the existence of the O.D.V.F., in answer to the Curzon Note presented to the State complete squadrons of the Air Fleet: in round numbers, more than 150 aeroplanes and 1,000,000 roubles for the creation of the Red Army, and for the development of peace industries of the country.

The Chamberlain Note of 1927 evoked in answer the campaign of the "Week of Defence," which was carried out with no less, if not with greater, enthusiasm than the campaign of 1923. The "Week of Defence" stirred both the town and the village. Interest shown by the peasants was no less than that shown in the town, as a result the "Week of Defence" collected throughout the Soviet Union about 5,000,000 roubles for the fund for defence called "Our Answer to Chamberlain." The might of the Osoviakhim, after the "Week of Defence" considerably increased. The number of members increased to half a million new members. An activity arose among the members of the masses, a considerable interest was noticed on the part of the toiling masses to the question of military organization, preparation of the country for defence, military work, and aviation and chemical knowledge.—From the *Krasnaya Zvezda*.

#### TURKEY.

**THE RAILWAY SYSTEMS.**—Before the Great War railway construction in Turkey had been largely due to foreign initiative, and was designed rather to benefit the exploiting companies than to develop Turkey. The three earlier railways—the "Anatolian" the "Smyrna Cassaba" and the "Aidin" were for many years not even connected together although their termini were adjacent to each other. The Orient Railway was an exception, in that it was designed as a strategic railway during the Russo-Turkish war.

The Baghdad Railway, although intended by the promoters to strengthen Germany's position by giving her a land route to the Persian Gulf, has been of considerable strategic advantage to Turkey.

Russian influence had prevented the construction of any railways in Central and North-Eastern Anatolia, which would have been of great strategic importance to Turkey during the Great War. Though some of the schemes recently decided upon or considered by the Turkish Government for the development of the railway system are not original, the initiative has come from within Turkey rather than



without. This is the great difference between pre- and post-war railway development in Turkey. The present Turkish Government, formed largely of soldiers, has carefully considered the strategic value of every line proposed before assent has been given to its construction.

The Turkish Government have recently completed the construction of the Angora-Kaisarya Railway, and have built a short section of railway from Samsun to Sivas. These two railways form part of a plan for linking up the Eastern Vilayets with the rest of the country. The Government has given a contract for the completion of the Samsun-Sivas Railway, and for the railway between Sivas and Kaisarya. The contract for the railway between Kaisarya and Ulukishla (on the Baghdad Railway) has been given to a German firm. The Angora-Kaisarya route has been considered before the construction of the Baghdad Railway by the Anatolian Railway Company as an extension of their railway in a south-easterly direction, but Russian pressure had negated the project.

The Government are also negotiating with a Swiss group, backed by American capital, for the construction of a railway from Sivas to Erzinjan. The extension of this railway to connect up with the Erzerum-Kars railway and the construction of the Trebizond-Erzerum-Tabriz railway are projects which are unlikely to be taken up by the Government for some time.

This group of railways in Eastern Anatolia is of great strategic importance as it will, if completed, form the main strategic lines for the defence of the Eastern Frontier and may eventually replace the Baghdad railway as the main overland route to the East. From an administrative and economic point of view it will be equally valuable.

In the south-eastern area, the main difficulty has been to discover a route through the mountainous districts that would at the same time secure communication between the more important centres and be constructed at a reasonable cost. The present plan is to run a branch line from the Baghdad railway at Keller to Diabekr, passing through Malatia, Kharpur and Arghana (important on account of the copper mines). From a strategic point of view this track is somewhat unsatisfactory as the weak spot in the Baghdad Railway has to be employed to connect Diabekr with the rest of Anatolia, for Cilicia must always be a danger point to the Turks in time of war. This seems to be unavoidable owing to the prohibitive cost of any other track.

A third project of the Turkish Government is to connect the Zonguldak coal fields by rail with the rest of Anatolia. The Government have decided to build a railway from Eregli on the Black Sea coast to a point on the Angora-Kaisarya railway near the new arsenal at Yagtche Han. An agreement was recently signed for the construction of this line on a metre gauge, but it is now reported that negotiations are proceeding for a broad gauge railway. The advantages of a broad gauge line are obvious, as it would place the coal mines in direct touch with all the railways in Anatolia without the delay and difficulties caused by a change of gauge, but the railway has to traverse the mountainous zone between the central plateau and the Black Sea.

A fourth project, still somewhat nebulous, is a railway from Adabazar on the Anatolian Railway to Havza on the Samsun-Sivas railway, via Kastamuni, with a branch to Ineboli. The strategic value of this line is limited but it would undoubtedly strengthen the defences of this coast line. Its commercial value is also dubious as it runs parallel to the coast line which is at present well served by shipping services.

A fifth project is the construction of a line from Kutahia, on the Anatolian Railway via Tavchanli to Balikesri, on the Smyrna-Panderma railway. The

contract for the construction of this railway has been given to the German group. If the Smyrna-Panderma railway is connected up to the Anatolian Railway in this way, it will be a matter of considerable strategic importance, as the Smyrna area, like Cilicia, is at present a bottle-neck of Turkish railway communications in the west, and the new line will enable the Turkish Government to reinforce the Dardanelles zone without passing near Smyrna. The Tavshanli-Kutahia section is destined to assist in the development of certain mines in the Tavshanli district.

A sixth project is the construction of a branch of the Aidin railway from Dineir to Chai (on the Anatolian Railway east of Afium Kara Hissar) and a branch from Egerdir to Adalia on the Mediterranean. The Turkish Government have already pressed the Aidin Railway Company to build these two extensions, but the latter have replied that neither would be remunerative, although they might be prepared to undertake the Dineir-Chai extension with a suitable kilometric guarantee. To this the Government are most unlikely to agree. The importance which the Turks place upon this railway is probably due to the reports that they have received of possible Italian aggression against them at this point.

The Smyrna-Cassaba railway, although for some years not connected to the Anatolian Railway, was linked up shortly before the war, and during the war the separate Smyrna-Cassaba and Smyrna-Aidin railways were linked together in Smyrna, therefore the rolling stock on the whole railway system in Anatolia is at the disposal of the General Staff in case of national emergency. That the Turks are capable of exploiting a railway is shown by their handling of the Anatolian and Baghdad railways; operating times have been speeded up, and a great deal of money and energy has been spent on improving permanent way, bridges, etc., but the difficult nature of the country other than on the central plateau makes comparison with other countries somewhat invidious.

### Death of Field-Marshal The Earl Haig.

#### ARMY ORDER.

"The Army Council, on the melancholy occasion of the death of Field-Marshal the Earl Haig, K.T., G.C.B., O.M., G.C.V.O., K.C.I.E., D.C.L., LL.D., Colonel, Royal Horse Guards, 17th/21st Lancers and King's Own Scottish Borderers, desire to place on record their sense of the heavy loss which the Army and the Empire have sustained. The late Field-Marshal had already served in many campaigns with great distinction and had held high appointments where he had had opportunities of training troops whom he subsequently commanded in the Great War. As Commander-in-Chief of the British Expeditionary Force in France and Flanders, he bore through four long years the heaviest burden which has ever been carried by a British soldier in the history of the Empire. He led the forces of the Empire to victory and placed his countrymen under a debt of gratitude which is fully acknowledged now and will, the Council are persuaded, be no less fully recognized by succeeding generations.

Always studious of the welfare of the troops under his command in the field, since the war he devoted without stint his time and great energy to promoting the interests of those who had risked their employment, their health and their lives in the service of the King.

He has left to the Army an imperishable memory and to the Empire a glorious example."

WAR OFFICE,

By Command of the Army Council.

2nd February, 1928.

## AIR NOTES

### ROYAL AIR FORCE

#### PERSONNEL.

**APPOINTMENTS.**—Group Captain A. Fletcher, C.M.G., C.B.E., M.C., to No. 21 Group Headquarters as Officer Commanding; 27th September, 1927. Group Captain C. E. H. Rathborne, D.S.O., to R.A.F. Station, Upper Heyford; 25th October, 1927. Air Commodore J. L. Forbes, O.B.E., to Headquarters, Inland Area, for duty as Chief Staff Officer (vice Air Commodore Drew); 12th December, 1927. Group Captain J. A. Chamier, C.B., C.M.G., D.S.O., O.B.E. (Air Commodore 1st January, 1928), to Air Ministry (D.T.D.), on appointment as Director (vice Air Commodore Forbes); 12th December, 1927. Wing Commander N. J. Gill, C.B.E., M.C. (Group Captain 1st January, 1928), to Air Ministry (D.T.D.) on appointment as Deputy Director (vice Air Commodore Chamier); 12th December, 1927. Air Commodore B. C. H. Drew, C.M.G., C.B.E., to No. 23 Group Headquarters as Air Officer Commanding (vice Air Commodore Bonham-Carter); 15th December, 1927.

**FLYING TRAINING.**—During the period 1st October, 1927, to 31st December, 1927, the following have completed courses of instruction at Flying Training units:

	Type of Course.	Officers.	Airmen.
C.F.S.	.. .. .	16	6
Ab Initio	.. .. .	43	14
Conversion	.. .. .	1	1
Refresher	.. .. .	5	1
		65	22

**R.A.F. CADET COLLEGE, CRANWELL.**—Twenty-five Flight Cadets completed their courses of instruction at this unit and received permanent commissions in the R.A.F.

**TECHNICAL TRAINING OF AIRCRAFT APPRENTICES.**—298 Aircraft Apprentices passed out from the School of Technical Training, Halton, and 37 from the Electrical and Wireless School, Flowerdown. Of these, five were awarded Cadetships at the Royal Air Force Cadet College, Cranwell.

### NAVAL CO-OPERATION.

#### FLEET AIR ARM.

**CHINA.**—The aircraft embarked in H.M.S. "Vindictive" and H.M.S. "Argus" have been employed in connection with the general situation in Chinese waters.

## COASTAL RECONNAISSANCE UNITS.

HOME WATERS.—No. 480 Coast Reconnaissance Flight carried out exercises with submarines during November.

The Far-East Flight consisting of four metal hull Southampton Flying Boats, left Cattewater on 17th October for Singapore and a cruise round Australia. The Flight arrived at Rangoon on 6th February where they will remain until 13th February, and will then continue their cruise to Singapore. The following places have been visited by the Flight on the cruise :—

Hourtin	Aboukir	Karachi
Berre	Alexandretta	Bombay
Naples	Baghdad	Bangalore
Brindisi	Basra	Cochin
Suda Bay	Hinaidi	Colombo.

MEDITERRANEAN.—No. 481 Coast Reconnaissance Flight at Malta have co-operated with naval and military units stationed there and have carried out their normal routine of training exercises.

*See also NAVY NOTES, p. 175.*

## OVERSEAS COMMANDS.

## ADEN.

During October, a large number of Zeidis invaded the Aden Protectorate in the Mizja-Turan area between Aden and Perim, where they burned and looted extensively. Aircraft from No. 8 (Bombing) Squadron at once proceeded to the affected area and dropped warnings on Mizja, ordering the Zeidis to evacuate within forty-eight hours. This had the desired effect and the Zeidis immediately withdrew across the border. The general effect of the action taken has been satisfactory and no further trouble has occurred.

## EGYPT AND SUDAN.

During October, No. 47 (Bombing) Squadron (Headquarters and two Flights) was moved from Helwan to Khartoum. The detached Flight already at Khartoum has been re-absorbed into the Squadron.

During December, disaffection broke out in the Lau Nuer country (Upper Nile Province), south of Malakal. Gwek Wonding, a witch doctor of the Nuer tribe living South of the river Sobat, became definitely hostile and attempted to raise the Nuers against the Government. The District Commissioner made every effort to approach Gwek Wonding by peaceful methods, but, as these proved unavailing, it was decided to drop light bombs on the pyramid at Dengkurs—the centre of the disaffected area—and incendiary bombs on his village in the vicinity. An air reconnaissance was accordingly carried out on 13th December. Air action was commenced on 19th December, against the villages of Dengkurs and Fula Fadding, and against concentrations of tribesmen and cattle in the vicinity.

It is now (13th January), reported that organized resistance is at an end.

## INDIA.

During the period under review, the squadrons in India have carried out their normal programme of training. As a result of disturbances in Shiah Orakzai



country, several photographic reconnaissances of this district have been carried out by aircraft of No. 60 (Bombing) Squadron.

#### IRAQ.

During the period under review disturbances occurred in Southern Iraq, as a result of which punitive operations were undertaken. A recrudescence of trans-frontier raiding by Akhwan tribesmen has also occurred. In other districts the situation has remained satisfactory.

#### DEFIANCE OF TRIBES IN SHATTRAH AREA.

During September, trouble arose in the Shattrah district between the Al Hatim section of the Bani Rikab and the Al Manna landlords. The Al Hatim, a turbulent section of the Bani Rikab, had failed to come in and submit their case for Government arbitration when ordered to do so, and had further threatened to evict the Al Manna landlords from their territory. In consequence, a demonstration flight was carried out over the affected area by three aircraft of No. 55 (Bombing) Squadron. The unexpected appearance of aircraft in this district had the desired effect and representatives of the Al Hatim reported to the authorities at Shattrah the same afternoon. On 13th October two representatives of the Al Hatim who had been detained at Nasiriyah in connection with the disturbances against their landlord broke bail and returned to their tribe. Further disturbances were reported to be taking place, and on 15th October, a force of police was despatched from Nasiriyah to effect the re-arrest of the escaped men. As the men refused to surrender and the Al Hatim adopted a defiant attitude towards Government authority, a demonstration flight by three aircraft was undertaken on 16th October over the villages of Al Fasamah and Hatim; at the same time the surrender of the leading men from the villages was ordered by the Mutasarrif. An ultimatum was dropped on the villages on the 19th October, warning them that if the leading men failed to report, air action would be taken. As no reply was received, nine machines of No. 84 (Bombing) Squadron operating from Nasiriyah, took action accordingly the following day. The advance of the police was, however, checked in the Umm Al Halfah area by hostile rifle fire and, as a punitive measure, further air action was taken on the 21st October against the villages of Salman Al Fadhil, Jabar As Sahar, Aziz Al Muzhib and Hatim. The police, advancing under cover of the air attack, entered and completed the destruction of the villages. Fines were imposed on the Al Hatim, but as no attempt was made to pay them, air action was again resumed on the 24th October against the villages of Al Fasamah and Al Buchamh, and on the 25th, against Al Khalid and Khazal Al Dhahi. The villages were then occupied by the police and destroyed. No opposition was encountered by the police, most of the inhabitants having dispersed throughout the Shatt-Al-Gharraf area. The Al Hatim have now paid the fine imposed upon them and the situation is normal.

#### AKHWAN RAIDS.

An attack by Akhwan raiders against the recently established police post at Busaiyah took place on the night of the 5th November. The raiders, numbering about 100, who were led by Misiyer Ibn Naif, a cousin of Faisal Al Dawish, the paramount Sheikh of the Mutair, carried out a surprise attack under cover of darkness, and succeeded in destroying the fort and killing all the inhabitants of the post with the exception of one policeman, who made good his escape and raised

the alarm at Abu Ghar, thirty miles away. An air reconnaissance carried out on the following morning was not able to locate the raiders who, unhampered by loot, escaped across the Nejd frontier. Work on the perimeter defences of the Busiyah post has since been completed and the post has been re-occupied by the police.

On 9th December, a formation of three aircraft, while patrolling over the Northern sector of the neutral area, between Iraq and Nejd, was heavily fired at in the region of Umm al Abid by a party of raiders numbering about 300. A wireless operator in one of the machines was wounded, but the remaining two machines attacked the hostile force with machine gun fire and several casualties were inflicted. The raiders, who were proved to be of Akhwan origin had, earlier in the day, carried out a raid against the Al Ghalidh section of the Bani Huchaim and were retreating southwards from Rukhaimiyah at the time the aircraft appeared. Air reconnaissances were carried out over the neutral zone on the following day, but the area between Rukhaimiyah and Umm al Abid was found to be deserted. As it was feared that further raids by the Akhwan might take place, all sections of the Bani Huchaim were instructed by the Iraq Government to move North of the line Magrithah-Baraibich. Contrary to these instructions, however, certain Iraqi shepherd tribes and a section of the Nejd Shammar proceeded to move South, and on 17th December were attacked near Jumaimah by a force of Mutair numbering between 300 and 400, led by Faisal Al Dawish. Subsequent air reconnaissances failed to locate any signs of the raiders. Protests were accordingly made to Ibn Saud, who admitted his loss of control over the Akhwan, and that they, in carrying out these raids, were acting in defiance of his authority. He was therefore informed that air action would be taken against the guilty tribes in the areas within Nejd in which they usually graze. This action, it is hoped, will inflict punishment on the raiders and be effective in preventing further Akhwan raids into Iraq Territory.

#### LIAISON WITH THE FRENCH AIR FORCE.

Three aircraft of No. 6 (Army Co-operation) Squadron left Mosul on 12th November on the first of a series of bi-monthly flights to Syria as a liaison with the French Air Force. They visited Deir-es-Zor, Muslimiya and Rayak, and returned to Mosul on the 20th November.

#### ARMoured CARS.

An Armoured Car Column, composed of Nos. 3 and 8 Sections, Armoured Car Wing, completed a survey of the Iraq-Syrian frontier from the River Euphrates to the Jebel Sinjar. The column left Sherghat on the 19th September and proceeding via Al Khandra and Al Bidi to Bir Al Adaid returned via Ain Ghazal to Mosul, where they arrived on the 24th September. The portion of the survey from Anah to Bir Al Adaid was carried out in May, but owing to the intense heat and sickness amongst personnel, the survey had to be given up before completion.

On 20th October, an Armoured Car Column left Hinaidi to carry out a survey of the Iraq-Transjordan-Nejd frontier, from Jebel Anaza to Jebel Tenf. The column arrived at Jebel Anaza on the 27th and after visiting Jebel Tenf proceeded to Wadi Miya and Rutbah, returning to Hinaidi via Muhaiwar on 8th November.

## AVIATION IN FOREIGN COUNTRIES.

### AUSTRIA.

An aviation agreement between the Austrian Government and the Conference of Ambassadors was initialled on 27th October, 1927, the terms of which are almost identical with those of the agreement with Germany of 22nd May, 1926. (A resumé of the German agreement was published in the August, 1926, number of the JOURNAL.)

The chief point of difference in the Austrian agreement is that the maximum number of members of the Army who are permitted to learn to fly within the next six years is twelve, as opposed to a total of thirty-six for the Army and Navy in the case of Germany. In addition, six existing pilots of the Army are allowed to continue to fly, but must not be replaced, as opposed to a total of thirty-six for the Army and Navy in the case of Germany. Further, twelve police may hold licences as opposed to fifty in Germany.

The initialling of this agreement completes the series of four air agreements between the ex-Enemy States (Germany, Hungary, Austria and Bulgaria) and the ex-Allies.

The internal legislation consequent on these agreements is intended to give permanent effect to the requirements of the clauses prohibiting military aviation in the various Treaties of Peace.

### DENMARK.

In their Defence Bill, the Danish Government propose that the Danish air arm shall be made a separate Service, but shall be placed under the Ministry for War or the Ministry of Marine.

The Air Force, it is reported, will consist of 2 Fighter Squadrons, 3 Reconnaissance Squadrons, 1 Bombing and Torpedo Squadron—making a total of 54 aircraft. These units will be stationed at a principal air station, which will be established at some point in Zealand suitable both for landplanes and seaplanes, and a secondary air station in Jutland.

The Naval Air Station at Copenhagen will be retained as the base for a seaplane squadron, but the aerodrome at Klovermaksvej will be abolished.

The flying school will be transferred to the air station to be established in Zealand and pilots, observers and mechanics will be trained there.

The estimates for the Danish Air Force amount to 3,102,050 kroner.

### FRANCE.

ESTIMATES, 1928.—The Estimates for 1928 were finally voted by the Senate on 25th December. The amounts are tabulated below. The sums voted for 1927 will be found in the Air Notes for November, 1927.

	Francs.
Military Air Service .. .. .	742,428,000
Naval Air Service .. .. .	199,475,000
Colonial Aviation .. .. .	19,863,267
Civil Aviation .. .. .	216,184,140

MILITARY AIR SERVICE.—During the latter part of 1927, two squadrons of the Third (Fighter) Regiment, stationed at Chateauroux were re-equipped with the Gourdou-Leseurre 32.C1. This machine is a monoplane single-seater fighter.

equipped with Gnome-Rhone Jupiter 420-h.p. engine ; it was one of those selected in the French single-seater fighter competition.

**NAVAL AIR SERVICE.**—At the beginning of 1927 the Naval Air Service consisted of fourteen squadrons. Four more squadrons had been formed by the end of the year, and it is stated that a further one-and-half will be formed during 1928, bringing the total up to nineteen-and-half.

**CIVIL AVIATION.**—From the 1st January, 1928, all civilian pilots employed on regular air lines in France, with non-stop stages of over 160 kilometres, must be holders of a navigator's certificate, or be accompanied by a certificated navigator.

### HOLLAND.

**FLIGHT AMSTERDAM-BATAVIA-AMSTERDAM.**—During October, 1927, Lieutenant Koppen, using a three-engined Fokker, flew from Amsterdam to Batavia, Dutch East Indies, in nine days, carrying mails. Seven days after reaching Batavia, he began his return flight to Holland, which he completed in eleven days. The three engines used were British Armstrong-Siddeley Lynx engines of 180-h.p. each.

**MILITARY AIR FORCE ESTIMATES.**—The total expenditure proposed for 1928 is 2,424,169 florins—an increase of 150,115 florins, compared with the figure for 1927.

### ITALY.

**MAJOR MADDALENA'S EUROPEAN TOUR.**—During October, Major Maddalena, flying a Savoia "S.62" flying boat, equipped with an Isotta-Fraschini Asso 500-h.p. engine, made a tour of various European countries. The route taken was as follows : SestoCalende-Belgrade-Costanza-Saratow-Moscow-Leningrad-Helsingfors-Stockholm-Amsterdam-Rome, a distance of approximately 6,200 miles.

The object of the flight was to demonstrate the qualities of Italian aircraft.

### JAPAN.

**SINGLE-SEATER FIGHTER COMPETITION.**—The Japanese Navy held a Single-Seater Shipboard Fighter competition in October. Three firms entered for the competition, these being the Nakashima Aircraft Works, the Mitsubishi Company and the Aichi Tokai Denki Company.

The Nakashima entry was a copy of a modified Gloster Gamecock, known as the "Gambet." The actual machine entered has been built in Japan, but the Bristol Jupiter engine fitted is British-built. The other two entries were larger machines, and both were fitted with 500-h.p. Hispano-Suiza engines.

It has been unofficially reported that the Nakashima entry was the favourite, but once the machines had been handed over to the Navy, all tests were carried out by Service personnel, so that nothing is likely to be known as to results until production orders are placed with the successful firm.

A trial flight from Osaka to Shanghai has been made by the Kawanishi Air Transport Co., with a passenger machine. The machine, which was a Dornier all-metal flying boat, left Osaka at 8.30 a.m. on 25th August, and reached Fukuoka at noon. The journey to Shanghai was completed next day.



**RUMANIA.**

**INDUSTRIA AERONAUTICA ROMANA AIRCRAFT FACTORY.**—The "Industria Aeronautica Romana" was formed in 1926, at the instigation of the Rumanian Government with the assistance of the French firms Blériot and Lorraine Dietrich. A large factory has been built at Brasso for the construction of aircraft and aero-engines. This factory, which was opened on 11th October, is provided with all the latest equipment, and should be capable of an output of 300 aircraft and 300 engines per annum.

The headquarters of the company are at Bucarest under the management of two high officials in the Rumanian Air Service.

**SOVIET UNION.**

**RUSSIAN-PERSIAN AIR AGREEMENT.**—An agreement is reported to have been reached between the Soviet Government and the Persian Government for the establishment of an air line which will extend the Moscow-Baku line from Baku to Pehlevi in Persia. The agreement will apparently come into force after the settlement of the clauses still under discussion at the International Air Conference at The Hague in January, 1928.

The Baku-Pehlevi extension is to be a means of speeding-up the postal service between Russia and Persia, and will be operated by the Ukrainian Air Line in conjunction with Junkers. Junkers aircraft, apparently, will be used and piloted by Russians.

**RUSSIAN-AFGHAN AIR LINE.**—An air route between Tashkent, in Russian Turkestan and Kabul has been agreed to by the Soviet and Afghan Governments. It is believed that the first flights along the route have already taken place. Russian aircraft, operating the route, belong to Dobrolot (a Russian civil aviation concern, literally "The Russian Volunteer Air Fleet Society").

**SWEDEN.**

Complaints have recently appeared in the Swedish Press regarding the Swedish Air Force, which, in 1926, became a Service separate from the Army and Navy. It is alleged that insufficient funds are provided and that too large a percentage of the funds allotted is spent on buildings. Aircraft are stated to be obsolete and close co-operation with the Navy and Army is alleged to be inefficient.

## AIRSHIP NOTES

### GREAT BRITAIN.

Press reports indicate that Lieut. Commander Burney is negotiating to exercise the option contained in the original contract, whereby "R.100" may be purchased outright by the operating company.

### ITALY.

**GENERAL NOBILE'S POLAR FLIGHT.**—General Nobile, who is in charge of the Italian State Airship works at Ciampino, is engaged in preparations for another airship flight to the Arctic regions. The flight is to be exploratory in character, and is to cover some three and a half million square kilometres. The "N.4" semi-rigid airship of 250,000 cubic feet capacity will probably be used for the expedition. Apart from some minor modifications the "N.4" is identical with the "Norge," which was successfully flown to the North Pole in 1926 by General Nobile.

General Nobile hopes to commence the flight in April from Milan. Spitzbergen, which is to be the base for the expedition, will be reached via Germany and Russia, instead of via France and Great Britain, as in the previous flight. General Nobile expects to return in the autumn of 1928.

### JAPAN.

A Reuter message from Tokyo, dated 16th November, states that the naval authorities have decided to construct in Japan a semi-rigid airship, similar to the "N.3," which was lost in a gale on the 23rd October. The new airship will be built with Japanese materials and will, it is expected, be completed within a year at a cost of £20,000.

### NOTE.

An article on "The War Value of the Airship," by Lieut.-Commander C. D. Burney, C.M.G., M.P., R.N., will appear in the May Journal.—EDITOR.

## REVIEWS OF BOOKS

### GENERAL.

**Imperial Military Geography.** By Captain D. H. Cole, M.B.E. (London: Sifton Praed). 1927. 10s.

It is almost superfluous to say that this work should be read by everybody in the least degree responsible for the Government of our country, and its dependencies, for it describes every part of the Empire, its climate, resources, population, religions, communications by land, sea and air, including cables and wireless, in relation to defence in a most interesting manner. It shows how neighbouring countries affect that situation. To make one quotation, the Indian Ocean is compared "in shape and meaning to an arch, almost every stone of which is British and the keystone of the whole is the Empire of India."

All political parties could read this book with advantage, for there is not a word of militarism or party feeling throughout its pages. It shows what responsibilities we have, and might, therefore, induce an interest in matters more important than local politics. The maps are clear and contain nothing irrelevant. There are a few slight errors, which are rather surprising, e.g., "Britt. omn. Rex" is translated "King of all the Britons" but they are unimportant.

In addition, there are details of all our commitments, brought about by the war, as well as of all recent important treaties, a feature not often to be found in any single volume.

### NAVAL.

**Jane's Fighting Ships, 1927.** Edited by Oscar Parkes, O.B.E., M.B., Ch.B., and Francis E. McMurtie, A.I.N.A. (Sampson Low, Marston & Co., Ltd., London.) £2 2s. od.

This ever useful publication has several new features of interest for the 1927 issue. The new type of silhouettes now cover the British, French and Italian Fleets. Valuable additions to the great collection of photographs include the completed battleship "Nelson" and 10,000 ton cruiser "Berwick," in the British section, some new views of the reconstructed American battleships and of the Japanese aircraft carriers "Akagi" and "Hosho." In the Addenda is also to be found a photograph of the new 7,100 ton cruiser "Aoba," the Japanese counterpart to our "B" class.

In the French section the fine illustrations of the aircraft carrier "Béarn" and of the aircraft tender "Commandant Teste" are the most striking novelties, while in the Italian one a photograph of the 10,000 ton cruiser "Trento" appears for the first time.

The only criticism we have to offer of an Annual which is, in other respects, well up to what we have come to expect, is that some of the earlier photographs seem to have begun to suffer from age and to have lost something in that detail which is all important.

**Aft—from the Hawsehole.** By Lieutenant-Commander H. D. Capper, O.B.E., R.N. (Taben & Gwyer, London.) 12s. 6d.

This is a bright and chatty collection of the personal reminiscences of the author who, entering the Navy as a training-ship boy in 1869, gained his commission in 1903 and retired with the rank of Lieutenant-Commander.

Particular interest attaches to the contrast, which this little volume well portrays, between "the brawling, intemperate and socially outcast sailor" of the author's early days in the Service, and the British seaman as he is to-day. Of no less significance is the change in the whole relationship of officers and men, from a discipline, often enforced with the cat-o-nine-tails and the rattan, to that based on mutual respect and intelligent understanding.

Admiral-of-the-Fleet Earl Jellicoe in a preface pays tribute to the author's efforts throughout his long naval career to improve the conditions of Warrant Officers and to facilitate promotion from the Lower Deck. This should crown the success of his life's work for the good of the Service.

### MILITARY.

**The Staff and the Staff College.** By Major A. R. Godwin Austen, O.B.E., M.C. (Constable, London). 21s.

It has always appeared strange that no account of the evolution of a staff in this country should have been written until Major Godwin Austen came to fill an important gap in our military history. He has, however, done much more than that. He has carried out a great deal of research into forgotten archives, and has produced important material hitherto buried in the depths of the British Museum and other graves of valuable information. More important still, from the point of view of the reader, his keen sense of humour and light touch have produced a work as entertaining as it is informative. He traces the slow and difficult growth of the staff from its real inception under Le Marchant, and finally disproves the idea, too often held, that we have depended upon the Prussians for all our staff ideas. From the time when the original Staff College started at High Wycombe, until late into the XIXth century, the story is one of endless struggle made by a few enthusiasts against the apathy and often active hostility of the Army itself, and of the somewhat cynical contempt of the civilian.

The author gives a very clear picture of the good and evil that came out of the long period of command of the Duke of Cambridge, and of the struggle for wholesale reforms made by Wolseley; he analyses the construction of the Imperial General Staff in the early parts of this century; lastly, he brings the whole story up to date with a study of the staff during and after the last war.

This is a book which will naturally be read by all past, present, and "hoping-to-be-future" graduates of Camberley, but it should appeal to many more. The Chief of the Imperial General Staff, in a foreword to it, recommends its perusal to all officers of the Army, while it should be of real enjoyment to anyone who cares for an entertaining piece of history. Even those who pretend to dislike and disapprove of the Staff College and its graduates should read it for the exquisite enjoyment they will get in reading the Duke of Cambridge's outburst on a certain occasion: "Staff College Officers! I know these Staff College Officers. They are very ugly officers and very dirty officers!"

**The German Official History of the Great War: Railways.** Vol. I. (Der Weltkrieg, 1914-1918. Das Deutsche Feld-eisenbahnwesen Erster Band). (Mittler & Sohn, Berlin). 20 marks.

In spite of its ponderous title this is a most interesting volume, since a comprehension of the great operations of the war is impossible without some understanding of the railway system, for railways influenced strategy and tactics to a marked degree.



This, the first volume, carries us to the middle of November, 1914; in addition to some 250 pages of reading matter it contains ten large maps and numerous illustrations of bridges, tunnels, etc.

In the early stages of the book the account indicates that everything went "according to plan" and the reader fears that the history is so official that all the human factors have been cut out of it. Later one is able to read with interest of the difficulties that arose in the beginning of September, owing to a collision near Mons and also of the effect of a sortie from Antwerp at the same period which brought to a standstill trains on the Brussels line. A cyclist detachment also succeeded in damaging the line and disorganizing the service about Tirlemont. The trains at this time were running some thirty-six hours late. A very human touch is given by the account of the German officer who caused disorganization to the service by holding up his train in order to water his horses at an adjacent canal. Such things do happen in war, and the fact that they are not altogether omitted from the official history gives the reader confidence in its accuracy.

Great stress is laid on the elaborate plans built up year by year, in peace, for the mobilization and concentration of the army. There can be little doubt that this enormous programme was carried through without a hitch and that difficulties and delays only occurred later when railways in the occupied territory had to be operated.

In 1913 it was decided to work on one plan only, this plan prepared for "a concentration for an attack on France, while leaving only a small force on the Eastern Front." As the official history points out, this led to great rigidity of plans, but the numbers involved were so enormous that even with great skill and a magnificent railway system it was impossible to do otherwise. According to this official history, on the evening of 1st August, 1914, the Kaiser proposed to concentrate the army against Russia only; the Chief of Staff stated that it was impossible to improvise a plan for moving an army of millions and that no change could be made. The picture of Germany, at war with Russia only, but compelled to concentrate against France "according to plan" is a curious one. Doubtless the truth was that the German Authorities could and did force conditions to fall in with their definite plans.

This history is also very frank about the invasion of Belgium: "At the beginning of the German advance little damage was found to exist in the Belgian railways as, owing to our rapid advance, the Belgians had had no time to undertake any serious destructive work."

**The Palestine Campaigns.** By Colonel A. P. Wavell, C.M.G., M.C. Maps. (London: 1928. Constable & Co., Ltd.) 252 pages. 12s. 6d.

This is a capital book, an ornament to the series in which it appears. The author enjoys, of course, the privilege of having taken a prominent part in the final campaign of 1917-18, while a long sojourn in Egypt has qualified him to write of the earlier fighting (1914-17) with authority; the narrative fully comes up to expectation. He has, moreover, succeeded in including in this very small compass an incisive survey of the strategy and tactics of the campaign. Naturally, he is a devoted admirer of Lord Allenby, and, in addition, is evidently a staunch believer in the value of mounted troops under many conditions of modern war. Whether all officers who fought on the Western Front will see eye to eye with him in his appreciations of the charges of the Yeomanry and of the Australian Light Horse against artillery and machine guns may be more doubtful. It is to be noted that when the Australians on the 29th September, 1918, dealt in this fashion with a

machine gun position, manned largely by Germans, at Jisr Benat Yakub, even though the action took place in the last stage of the Turkish rout, they found a somewhat tougher nut to crack. Nevertheless, these little actions are all remarkable exploits.

The final "lessons" of the campaign are very brief, but the comments with which the story is garnished make up for their brevity. The difficulties of the campaign, viz., the roadless country, the lack of water, the climatic extremes, the transport problems are also duly emphasised. The literary bias of the author comes out on occasion, but he never attempts any "fine writing" to the detriment of a plain, clear style of narrative. But why use "bug" for germ? The numerous maps, as far as they go, are all good and useful, though there is felt a real lack of a good map to illustrate the delicate manoeuvres of the Third Battle of Gaza.

The book should be of real use and interest to all who are interested in these campaigns.

**A History of the British Army. Vol. XII.** By the Hon. Sir J. W. Fortescue, K.C.V.O. (Macmillan & Co., Ltd., London). 40s.

This volume may perhaps be regarded as the most interesting of its series, as it embraces the period 1839-1852, which includes some of the most critical times of our Indian Empire.

The preface shows the difficulties the author had to contend with; the documents at the India Office being described as "the most disorderly and chaotic assembly of papers encountered in over thirty years' research, incomplete, badly arranged, badly written and unindexed."—Such are the records of probably the most important business company that ever existed. The East India Company's method of government affords very distressing reading, particularly during the Afghan troubles of 1839-1842, when Sir William Nott was the only senior officer, who throughout displayed courage, determination and foresight; yet these soldierly attributes constantly led him into such trouble as almost to endanger his career.

Napier's Scinde campaign is an excellent example of what a man of determination can accomplish in the face of difficulties of climate, supply, medical arrangements and transport, by his own personal example and inspiration. The China campaign of 1842 gives an instance of the success of amphibious co-operation, though affording little else of military interest, since any sort of plan sufficed against an enemy unable to punish its defects. The Gwalior campaign is noteworthy as being the only one of importance that was successfully finished by one day's fighting.

Lord Ellenborough, as Governor General, instituted the custom of rewarding military service with the same medal for all ranks. Following this precedent, a decoration was given in 1848 to the naval and military survivors of the Napoleonic Wars.

The first and second Sikh Wars, with the events leading up to them, occupy five chapters. The Sikhs were by far the most formidable enemy the British had yet encountered in the East, for they fully understood the value of musketry fire, had excellent artillery and were well led. The author shows how very close some of our victories were to defeat. He also emphasises throughout, how the interference of political agents hampered the army command.

Chapter xxxv is devoted to the operations against the Maoris, which arose over disputes about land. Here the force again suffered for lack of transport and medical arrangements in a jungle country, with an enemy who was an adept in

surprises and stockade building.\* The author remarks that had the Burmese been such good warriors as the Maories, we should never have conquered Burma.

The Pegu campaign of 1852 is next described. Here the force was dependent on the Irawadi river for its line of communications, and the difficulty of protecting such a line is well brought out. The last two chapters deal with the fighting at the Cape between 1835 and 1853, in which Sir Harry Smith played the most distinguished part, and averted a general rising of black against white in South Africa.

A book of maps accompanies this volume of the same high standard as preceding ones. The British Army owes much gratitude to its historian.

\* *Museum model.*

**Psychology and the Soldier.** By F. C. Bartlett, M.A., Fellow of St. John's College, Cambridge, Reader in Experimental Psychology, etc., Cambridge. (The University Press). 1927. 224 pages. 7s. 6d.

This book is a courageous attempt to deal with a whole group of very difficult topics. On the Continent, where the subject has long been studied, two or three attempts have been made to provide a military manual of psychology, but these have really failed. Mr. Bartlett has done much better than these foreign writers, but even so, a perusal of this truly readable treatise may fail to carry conviction as to its utility as a practical text-book. One lays it down with a feeling that the author has gallantly attempted to reach his goal, but has failed, since the book contains no kind of formulæ, not even any definite hints, which will assist the average regimental officer in making his unit more efficient. "An ounce of practice is worth a ton of theory"; such, we fear, will be the judgment of the majority. The fact is that the human mind does not lend itself to any hard and fast generalizations whereby the conduct of men can be infallibly controlled: that is the crux of the matter. Consequently, the book conveys the impression that we are attending a lecture by an eminent authority on a subject whereof half the audience believes itself to have already acquired a practical knowledge by instinct and by experience, while the remainder feels itself out of its depth. The academic flavour holds good to the end. In dealing with laboratory tests for the selection of recruits the writer stands on firmer ground, yet here he tells us nothing of the very important work of this nature that was carried out in the U.S.A. during 1917-18: this is truly disappointing.

To Staff College graduates, to officers of high rank, or such as care to probe the philosophic side of war, this volume can be recommended, but, outside this limited circle, we fear that it will not appeal. A book of this type must be written by one who combines the learning of the professor with an intimate, first-hand, knowledge of men in battle.

**A Postscript to the Records of the Indian Mutiny.** By Lieut.-Colonel G. H. D. Gimlette, C.I.E., (I.M.S.) (H. F. & G. Witherby, London). 10s. 6d.

Colonel Gimlette's object has been to trace the subsequent careers and fate of the units of the Bengal Army after they mutinied in 1857-58. He modestly disclaims any idea of adding to history. Nevertheless, he discloses much that is of great psychological interest. Why did some units mutiny and others not? Some murder their officers and others not? It was obviously not merely a question of the relations of the officers to their men. A strong personality in command of a unit undoubtedly often prevented murder, even if it did not prevent a break away. In some cases a lack of appreciation of the Asiatic mind accounted for a misplaced confidence in the loyalty of the men. In many cases supineness in the higher

commands of the army almost encouraged mutiny. One wishes that the author could have given some information regarding the constitution of the units and the districts from which each was recruited. Such information, if studied in relation to the political unrest of the time, would possibly help to elucidate the mystery.

In the post-Mutiny army no unit of artillery, or of the Light (Regular) Cavalry found a place; of the eighteen Irregular Cavalry regiments, eight were reconstituted, and since 1921, are represented by four of the present regiments; of the seventy-four battalions, eleven were reconstituted and ten of these still find a place in the present Indian Army.

**Marching with Sherman.** Passages from the Letters and Campaign Diaries and Letters of Henry Hitchcock. (Oxford University Press). 18s.

Not many Englishmen who sing that rousing song "Marching thro' Georgia" know the story of Sherman's famous march from Atlanta to the Sea. Henry Hitchcock, who was on that General's Staff, gives us an intimate picture of the character and habits of his chief and of daily occurrences during the operations. Unfortunately, as regards the English reader, neither he nor the Editor gives a preliminary description of the general situation out of which the march arose, nor is the story of the diary connected up with current events. The book, therefore, to be of any value to the military student, must be read in connection with some standard work as "The American Civil War." It is interesting to read Hitchcock's continuous denunciation of Confederate crimes while the Federals were actually carrying out one of the most complete devastations of country known to military history.

**A Soldier Diplomat.** By Brig.-General Sir Douglas Dawson, G.C.V.O., K.C.B., C.B., C.M.G. (John Murray, London). 18s.

Sir Douglas Dawson spent many years as a military attaché in various of our embassies in Europe. He was therefore behind the scenes in many great events. He gives us a record of war and diplomacy, which in some cases, such as the Fashoda incident, is of particular interest. We could wish the book more condensed, however, the style less apologetic and that the writer would occasionally say things instead of venturing to say them. These matters are mildly irritating. But there is much to praise: Between the lines one sees a charming and capable personality, who, by his admirable qualities, maintained in many capitals the high traditions of the British officer, and by the application of sound common sense to current problems, advanced the interests of his country. There is not a scandal in the book, nor an unkind word; yet there are some excellent stories.

**Five Years in Turkey.** By Liman von Sanders (Translation already reviewed).

We are asked to state that this volume is being marketed in Great Britain by Messrs. Baillière, Tindall & Cox, London. (Price 6s.)

#### REGIMENTAL HISTORIES.

**The Devonshire Regiment, 1914-1918.** Compiled by C. T. Atkinson, late Captain, Oxford University, O.T.C. (Exeter: Eland Brothers; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.) 1926: 742 pages.

A detailed and well written story of the very fine record of the many battalions of the Devon Regiment (ten in number), that fought in the Great War. There are very full appendices, an index and numerous maps.



**History of the Duke of Wellington's Regiment, 1st and 2nd Battalions, 1881-1923.** By Brigadier-General C. B. Bruce, C.B.E. (London: The Medici Society, Ltd.) 263 pages.

The story of the 1st Battalion is very brief; it had the misfortune to be retained in India throughout the Great War and only saw service in the Third Afghan War of 1919. The 2nd Battalion meanwhile, bore its full share of the whole campaign in France, 1914-1919. The book is well produced and is lavishly supplied with appendices, maps, index, and illustrations.

**The Campaigns and History of the Royal Irish Regiment. Vol. II. From 1900 to 1922.** By Brevet-General Stannus Geoghegan, C.B., late Indian Army and formerly of the 1st Bn. The Royal Irish. (London: William Blackwood & Sons, Ltd.) 1927. 207 pages.

This volume deals with the activities of the 1st Bn. of this Regiment in France and Palestine throughout the Great War. The 5th, 6th and 7th Battalions were employed for rather shorter periods in all theatres of war. The volume is well got up and contains good maps, photographs and index, and detailed appendices.

**Historical Record. 110th Mahratta Light Infantry (now 3rd Battalion 5th Mahratta Light Infantry), during the Great War, 1914-1918.** (Calcutta: Printed by the Manager, Government of India Press). 1927. 109 pages.

This volume narrates the story of the 110th Mahrattas in Mesopotamia down to their capture at the surrender of Kut-el-Amara. Another 110th was resuscitated later and fought in Palestine in 1918, in the Third Afghan, and lastly in Waziristan. There are some maps and a Roll of Honour, but no index or appendices.

#### AIR.

**The Old Flying Days.** By Major C. C. Turner. (Sampson Low, London). 21s.

Flying had a short but happy childhood. After a few years of delightful freedom during which it made wondering contact (not without some of the bumps and bruises inseparable from infancy's experiments) with the things of this world, it was suddenly forced to a premature manhood by the war.

Since the war flying has become organized and innocuous, efficient and uninspired, commercial, dull and devastatingly proper. The more pleasant it is therefore to be able to take up Major Turner's book and to re-view the humorous and heroic events of "The Old Flying Days." And we must bow, in passing, to that rare thing the perfect title. Major Turner has employed a strongly rhythmic phrase in which there is an exquisite inter-play of vowel sounds (note how the *i* bites into the *o*) and which, besides, conjures up the essential spirit of the book.

In the old flying days an aeroplane pilot was either a giant or a lunatic according to your point of view. Each one was an inspired individual working upon individual lines and having in common with the others only a passionate interest in his experiments. In those days there were no secondary issues, such as commercial success or national air defence, flying itself was the sole objective.

Major Turner was himself a pioneer and perhaps no one was better suited for compiling this book than he. His style is sometimes careless and the notes and journalistic extracts which form a great part of the book have the appearance of having been hastily thrown together. Nevertheless the atmosphere of the old flying days does emerge and "In this book," says Major Turner, "I seek only to

recall the spirit, the 'atmosphere' of the first phase of practical flying in this country and even this only to the extent of my personal association with it and with the men who made it."

That first phase was "a very remarkable and extraordinarily interesting struggle, a struggle against the unmeasured forces of nature; a struggle against inertness, even prejudice, not only of the community generally, but of scientific men; a struggle marked by heroic sacrifice of life."

The book indicates that there was less inertness and prejudice in France than in this country. Here the inventor frequently suffered severely from the savage ignorance of the public. To some extent he still suffers, his actions are still hampered and restricted; but now it is the law more than the public against which he must struggle.

Major Turner has compiled a record of what will perhaps remain for ever the most vivid period of aeronautical history.

**Aerial Photographs.** By Dache M. Reeves. (The Ronald Press Company, New York). \$5.00.

The author, a lieutenant in the U.S. Army Air Corps, and a former instructor in aerial photography, writes interestingly and with a knowledge of his subject. The earlier portion of the book is devoted to a study of aerial photographs in general and their characteristics. The second portion deals with the application of such photographs to military usage, and the more detailed study of ground in occupation by troops, both in forward and back areas.

From the nature of the subject and the manner in which it is treated, there is, unfortunately, a good deal of repetition, which is apt to become wearisome. It is difficult to see, however, how this can be avoided, and this very repetition may have a good effect in impressing the more salient points of a subject about which little is generally known, and that little, imperfectly.

As is natural, the majority of the lessons and examples, are drawn from the late war, in which stabilised warfare was a predominating factor. The author has, however, attempted to visualize the use of aerial photographs in a war of movement, and whatever criticism may be levelled at his views, there is no doubt that they give food for thought and a good groundwork to form a basis for further study.

The identification of military works and buildings in military occupation is mainly effected by a detailed study of the tracks surrounding them. In fact, the study of tracks may be said to form 90 per cent. of the work of interpretation. This aspect has been insufficiently stressed and the study of the effect of snow, which assumes importance in all northern theatres of war, has also been somewhat summarily dismissed.

The book ends with a couple of interesting chapters on Intelligence and Mapping. Admittedly, no attempt has been made to write a text-book, but the author should succeed in whetting the appetite of anyone desirous of making a more detailed study. As such, it can be recommended to anyone ordered to undergo the course of study at Farnborough.

The book contains a glossary and is well indexed.

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